

# Economic Review

1/2012



BULGARIAN  
NATIONAL  
BANK



# Economic Review

1/2012



BULGARIAN  
NATIONAL  
BANK

Bulgarian monetary policy regime seeks national currency stability with a view to price stability. The BNB quarterly *Economic Review* presents information and analysis of balance of payments dynamics, monetary and credit aggregates, their link with the development of the real economy, and their bearing on price stability. External environment is also analyzed since the Bulgarian economy is influenced by international economic fluctuations. This publication contains quantitative assessments of the development in major macroeconomic indicators in the short run: inflation, economic growth, monetary and credit aggregate dynamics and interest rates.

The *Economic Review*, issue 1/2012 was presented to the BNB Governing Council at its 15 May 2012 meeting. It employs statistical data published up to 8 May 2012.

The estimates and projections published in this issue should not be regarded as advice or recommendation. Exclusively the information user is liable for any consequences thereof.

The *Economic Review* is available at the BNB website, *Periodical Publications* sub-menu. Please address notes, comments and suggestions to the BNB Economic Research and Projections Directorate at 1000 Sofia, 1, Knyaz Alexander I Square, or to [econreview@bnbank.org](mailto:econreview@bnbank.org).

ISSN 1312 – 420X

© Bulgarian National Bank, 2012

This issue includes materials and data received up to 21 May 2012.

The contents of the BNB *Economic Review* may be quoted or reproduced without further permission.

Due acknowledgment is requested.

Elements of the 1999 issue banknote with a nominal value of 20levs are used in cover design.

Published by the Bulgarian National Bank  
1000 Sofia, 1, Knyaz Alexander I Sq.

Tel.: (+359 2) 9145 1351, 9145 1209, 9145 1231

Fax: (+359 2) 980 2425, 980 6493

Website: [www.bnb.bg](http://www.bnb.bg)

# Contents

---

<b>Summary</b>	5
<b>1. External Environment</b>	9
Current Business Situation	9
International Prices (Crude Oil, Major Raw Materials, and Gold) and the EUR/USD Exchange Rate	21
<b>2. Financial Flows, Money and Credit</b>	24
Financial Flows and External Position Sustainability	25
Monetary Aggregates	28
Credit Aggregates	33
<b>3. Economic Activity</b>	38
Household Behaviour	42
Government Finance and Consumption	46
Behaviour of Firms and Competitiveness	50
Exports and Imports of Goods	55
<b>4. Inflation</b>	61

## Highlights

- Greek Sovereign Debt Restructuring 14
- Measurement and Presentation of Uncertainty in Forecasting Economic indicators 58

## Abbreviations

APRC	Annual percentage rate of charge
BIR	Base interest rate
BOP	balance of payments
BTC	Bulgarian Telecommunications Company
b.p.	basis points
CEECs	Central and East European countries
CEFTA	Central European Free Trade Association
CIF	Cost, insurance, freight
CIS	Commonwealth of Independent States
CZK	Czech koruna
DXY	an index measuring the exchange rate of the US dollar against the basket of six major currencies
EA	Employment Agency
EC	European Commission
ECB	European Central Bank
EIB	European Investment Bank
EMBI	Emerging Markets Bond Index
EONIA	Euro OverNight Index Average
EU	European Union
EURIBOR	Euro Interbank Offered Rate
FDI	foreign direct investment
FOB	Free on board
FRS	Federal Reserve System
GDP	Gross Domestic Product
GFMS	Gold Fields Mineral Services
HICP	Harmonized Index of Consumer Prices
HRW	hard red wheat
HUF	Hungarian forint
IEA	International Energy Agency
IMF	International Monetary Fund
ISM	Institute for Supply Management
LEONIA	LEv OverNight Index Average
LIBOR	London Interbank Offered Rate
M1	narrow money
M2	M1 and quasi-money
M3	broad money
MF	Ministry of Finance
MFIs	Monetary Financial Institutions
mt	metric tons
NPISHs	Non-profit institutions serving households
NSI	National Statistical Institute
OECD	Organization for Economic Cooperation and Development
OPEC	Organization of Petroleum Exporting Countries
PLN	Polish zloty
PMI	Purchasing Managers' Index
p.p.	percentage points
PPP	Purchasing Power Parity
CIS	Commonwealth of Independent States
RON	Romanian new leu
WTI	West Texas Intermediate

# Summary

---

The positive data about US economic development where industrial production and new orders continued to increase, resulted in a rise of global economic indicators in the first quarter of 2012 compared with the second half of 2011. Euro area economic development continued to slow down and in the fourth quarter of 2011 most Member States posted a decline in real GDP compared with the previous quarter. In the fourth quarter of 2011 the growth rate of global trade slowed down to a large extent as a result of euro area's lower foreign trade turnover. Based on the conjunctural indicators trends and short-term developments in the world trade, it may be expected that the global economic growth will remain low in the first half of 2012 and may gradually accelerate from the third quarter.

In 2011 economic growth in Bulgaria accelerated to 1.7 per cent against 0.4 per cent in 2010. Exports were the driver of growth, while domestic demand went down in real terms due mainly to the continued decline in investments in fixed assets. In the second half of 2011 the growth rate in real terms started to slow down and in the fourth quarter growth was 0.3 per cent on a quarterly basis (0.2 per cent in the third quarter).

Household consumption remained weak both in the whole 2011 and in the fourth quarter (quarter-on-quarter increase by 0.6 per cent and a contribution of 0.4 percentage points). Household pessimism about the general economic situation and the state of labour market had a negative effect on the households' financial situation expectations for the following 12 months. As a result households limited their consumption and maintained relatively high savings rate. The households' pessimistic assessments were supported by the corporations' negative employment expectations and anticipated slow recovery of economic activity which will exert further employment reduction pressures.

Investment activity of corporations continued to decline in 2011 and the contribution of gross fixed capital formation was -2.2 percentage points. Uncertain economic environment continued to be the main factor limiting investments in fixed assets. Dynamics of investment demand will continue to depend on the processes in international financial markets and foreign direct investment inflow. The downward trend in fixed asset investment may be reversed in the second and third quarters of the year provided that relatively good current financial state of corporations is sustained and intensive production capacity utilisation continues to increase. However, in 2012 gross fixed capital formation is expected to remain lower than in 2011.

Over the last quarter of 2011 government consumption had a zero contribution to GDP growth and its overall contribution in 2011 was 0.1 percentage point. In the second and third quarters of 2012 the contribution of government consumption to GDP growth is expected to remain insignificant.

The balance on the consolidated fiscal programme for the January – March 2012 came to BGN -687.2 million based on preliminary data, including a deficit of BGN 256.8 million under EU programmes due to increased capital costs.

Gross value added in the economy increased by 0.2 per cent quarter-on-quarter in the fourth quarter of 2011 in the context of subdued economic activity in Bulgaria's major trading partners and weak domestic demand. Given the combined effect of external and internal unfavourable factors, economic activity of corporations is expected to slow down in the second quarter and to start to recover slowly in the third quarter. Corporations are also expected to continue the policy of improving their cost competitiveness and to remain conservative in recruitment.

In the first quarter of 2012 the business environment in Bulgaria worsened both as a result of the decline in euro area economic growth in the last quarter of 2011 and the harsh winter conditions in Bulgaria. More sizeable negative effects on export dynamics reflecting external environment developments are anticipated to occur in the first quarter of 2012, but their impact is likely to be waning in the second quarter. Provided that external environment stabilises, domestic demand is expected to start to recover slowly in the second and third quarters of 2012. Quarter-on-quarter real GDP growth is expected to hover around zero in the second quarter of 2012, while in the third one it is likely to increase on a quarterly basis.

Bulgaria's external position remains sustainable. This statement is based on the structure of capital inflows, mainly in the form of foreign direct investment, and on the structure of accumulated obligations, mainly in the form of intercompany loans. The enterprises gradually reduced their external liabilities, servicing external debt obligations. On an annual basis, the current account recorded a 0.1 per cent deficit of GDP as of February 2012, while the overall current and capital account balance recorded again a surplus of 1.2 per cent of GDP. In January and February 2012 the cumulative balance of payments current and capital accounts was negative: EUR 380.8 million. In the third quarter of 2012 the current and capital account balance is expected to remain positive on an annual basis as a result mainly of the sustained positive balance on trade in services and net receipts in the form of current and capital transfers. According to our assessment, risks of a lower balance stem mainly from a widening of the trade deficit. In the second and third quarters of 2012 nominal export growth is projected to decline due to weaker external demand and slower rise in international prices. Import growth is also expected to slow down, although this will be less pronounced due to the gradual improvement in domestic demand.

The balance of payments financial account balance for January and February 2012 was negative and amounted to EUR 652 million, reflecting bank operations oriented towards an increase in their foreign assets and decrease in their foreign liabilities. Based on balance of payments preliminary data in January and February 2012 foreign direct investment inflow in Bulgaria was positive and came to EUR 84.6 million. The bulk of this investment was in the form of equity capital in the amount of EUR 86.5 million and reinvested earnings in the banking sector of EUR 17.8 million.

In the first quarter of 2012 the Bulgarian banking system continued to attract deposits from residents due to the sustained high savings rate. By end-March bank reserves with the BNB grew by 8.0 per cent on an annual basis, reflecting the increase in deposit base, while the annual growth rate of currency in circulation was 8.1 per cent. The annual growth rate of currency in circulation is expected to be sustained and the growth of banks' reserves with the BNB to increase slightly over the second and third quarters of 2012.

By March 2012 broad money growth decelerated slightly to 10.7 per cent on an annual basis as compared to 12.3 per cent in December. The narrow monetary aggregate M1 contribution continued to increase in March 2012: M1 growth accelerated to 17.2 per cent on an annual basis (up from 14.4 per cent at the end of 2011). This development was underpinned mainly by overnight deposits whose growth rate accelerated in March to 21.9 per cent on an annual basis. The annual growth of broad money is expected to gradually slow down in the second and third quarters of 2012.

The worsening economic situation at the end of 2011 and in early 2012 and the low investment activity of corporations led to lower demand for loans. The subdued borrowing demand by households continued to be driven by the uncertainty about their future income and the intensified negative trends in the labour market. Bank liquidity remained high as a result of the significant deposit inflow from residents and due to the low demand for domestic loans banks invested their free resources in foreign assets.

As a result of the retained ample liquidity in the Bulgarian banking system, in the first quarter of 2012 interbank money market interest rates decreased on the previous quarter. However, low interest rates in the interbank money market are not a decisive factor for setting lending rates, since this market's role

in bank liquidity management is just auxiliary. Lending rates are primarily affected by the cost of attracted financial resources. In the second and third quarters of 2012 deposit interest rates are expected to marginally decline. At the same time, the instability and uncertainty in international financial markets will be the factors limiting the possible decrease in lending rates.

After accelerating in 2010 and in early 2011, the annual inflation measured by consumer prices started to decline, following the stabilisation of international commodity prices. This trend was sustained in the first quarter of 2012: in March the annual rate of inflation was 1.7 per cent (2 per cent in December 2011) and the average annual inflation over the last 12 months decreased to 2.7 per cent (3.4 per cent in December 2011). In March transportation fuels (0.6 percentage point contribution), goods and services with administratively controlled prices (0.6 percentage point contribution) and foods (0.4 percentage point contribution) contributed most to the annual inflation.

Trends in international commodity prices in 2011 and the beginning of 2012 continued to be the main drivers for the domestic price dynamics along the supply chain. The downward trend in transport fuel inflation was reversed in the beginning of 2012 due to the significant increase in crude oil prices. In March annual fuel inflation rose to 7.8 per cent (4.0 per cent in December 2011), with this group retaining its main contribution to overall inflation measured by consumer prices. We expect a slight increase in inflation over the second and third quarters of 2012 compared to the current levels. This will reflect fuel inflation, core inflation and adjustments in some administratively controlled prices. Major risks to the inflation forecast relate to international price developments, trends in economic activity in Bulgaria and the decision on the regulated electricity price for households.





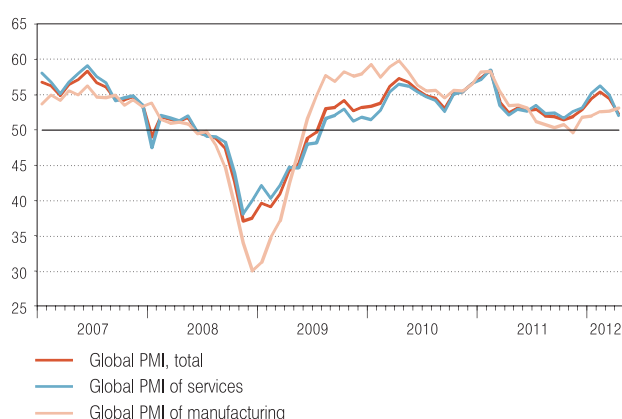
# 1. External Environment

In the first quarter of 2012 the global PMI indicator increased on the last two quarters of 2011, with its dynamics driven by favourable economic development data in the USA where industrial production and new orders continued to rise. Euro area economic development continued to moderate, with most Member States posting a decline in real GDP in the fourth quarter of 2011 compared with the previous quarter. Based on the conjunctural indicators dynamics, a continuing decrease in euro area growth may be expected in the first half of the year, though at lower rates than those in the second half of 2011.

## Current Business Situation

In the first quarter of 2012 the global PMI indicator increased on the last two quarters of 2011 and reached stable levels above the threshold of 50, reflecting improved expectations of business environment and economic growth.

Global PMI



Source: JP Morgan.

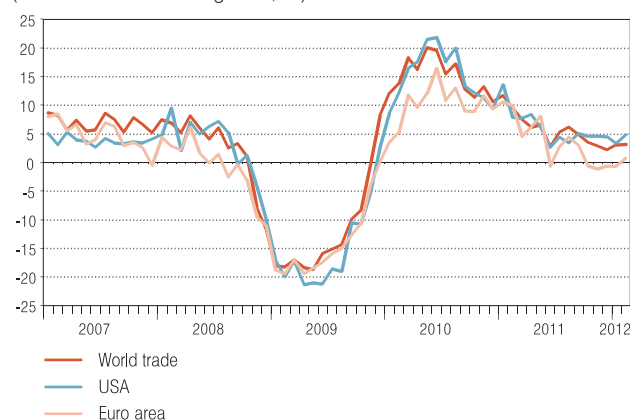
In the services and industry sectors, the levels of the major business activity indicators at the beginning of 2012 went up. The economic indicators of both sectors continued the upward trend from December 2011, showing that expectations for strengthening economic activity prevail. These indicators' dynamics was driven mainly by the trend in the USA where industrial production and new orders continued to increase. On the other hand, the symptoms of decline in China's growth and continuing debt-servicing problems in some euro area countries contributed to the decrease in economic indicators in the advanced economies of Asia and Europe.

In the fourth quarter of 2011 world trade growth moderated to 2.8 per cent on an annual basis (5.4 per cent in the previous quarter), mainly driven by the drop in euro area foreign trade by 0.8 per cent (down by 4.1 percentage points on the third quarter of 2011). Concurrently, over the fourth quarter US foreign trade growth accelerated to 4.5 per cent on an annual basis *vis-à-vis* 4.3 per cent in the third quarter. In January and February 2012 world trade growth accelerated to 3.1 per cent on an annual basis. After four consecutive months of decreases, in February euro area international trade posted a positive growth on the corresponding period of 2011.

Based on the conjunctural indicators trends and short-term developments in the world trade, it may be expected that the global economic growth will remain low in the first half of 2012 and may gradually accelerate from the third quarter.

## World Trade

(annual rate of volume growth, %)



Source: CPB Netherlands Bureau for Economic Policy Analysis.

In 2011 the average global inflation was 4.5 per cent, up by 1.1 percentage points on the previous year. At the end of 2011 and in the beginning of 2012 downward trends in inflation were observed. In the fourth quarter it fell by 0.4 percentage points on the third quarter to stand at 4.5 per cent, while in January 2012 it was 4.4 per cent. The downward trend was more clearly pronounced in the developed countries and Asia's developing economies.

## Euro area

In the fourth quarter of 2011 euro area GDP growth moderated to 0.7 per cent year-on-year against 1.3 per cent in the third quarter. On a monthly basis, it went down by 0.3 per cent against the previous 0.1 per cent growth. By component only the contribution of net exports was positive (0.3 percentage points). Imports made a positive contribution to growth by 0.5 percentage points, while exports made a contribution of -0.2 percentage points. Household consumption and changes in inventories contributed by -0.2 percentage points, while investments and government consumption reported a -0.1 percentage point contribution.

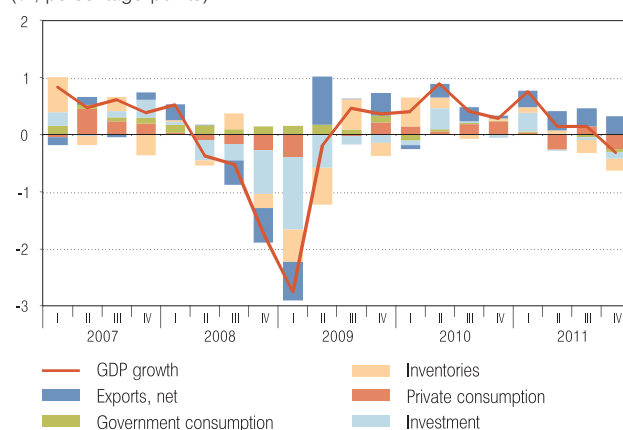
In Germany and France, economic growth moderated on an annual basis over the fourth quarter to 2.0 per cent (previous quarter: 2.7 per cent) and 1.4 per cent (previous quarter: 1.5 per cent) respectively, while in Spain it declined to 0.3 per cent (previous quarter: 0.8 per cent). GDP recorded a decrease of 0.5 per cent in Italy (compared to a 0.3 per cent increase in the third quarter), Greece (-7.0 per cent), Cyprus (-0.5 per cent), Netherlands (-0.7 per cent) and Portugal (-2.7 per cent) and Slovenia (-1.5 per cent)<sup>1</sup>.

A negative quarter-on-quarter real GDP rate was reported in Belgium (-0.2 per cent), Germany (-0.2 per cent), Estonia (-0.8 per cent), Spain (-0.3 per cent), Italy (-0.7 per cent), Netherlands (-0.7 per cent), Austria (-0.1 per cent), Portugal (-1.3 per cent) and Slovenia (-0.7 per cent).

<sup>1</sup> GDP data for Greece and Netherlands have not been seasonally adjusted.

## Contribution to Real GDP Growth in the Euro Area by Component (Quarterly)

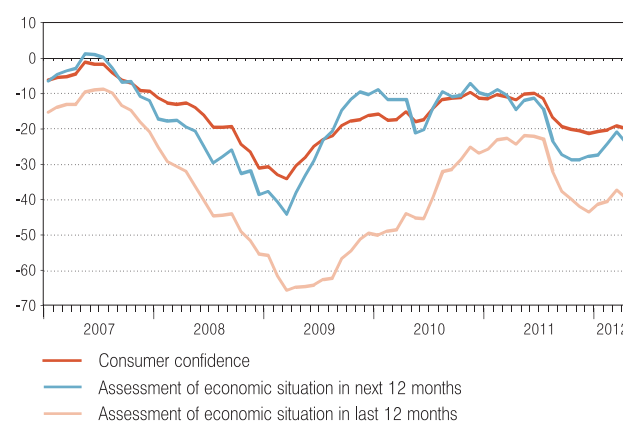
(%; percentage points)



Source: Eurostat.

In the first quarter of 2012 the average values of euro area leading indicators were higher than their averages in the last quarter of 2011. In April the euro area economic sentiment index declined to 92.8 (previous value: 94.5), while European Commission business climate indicator fell to -0.52 (previous value: -0.28). The euro area consumer confidence index of the European Commission declined in April to -19.9 against -19.1 in March. Based on the conjunctural indicators dynamics, a continuing decrease in euro area growth may be expected in the first half of the year, though at lower rates than those in the second half of 2011.

## Euro Area Consumer Confidence Indices

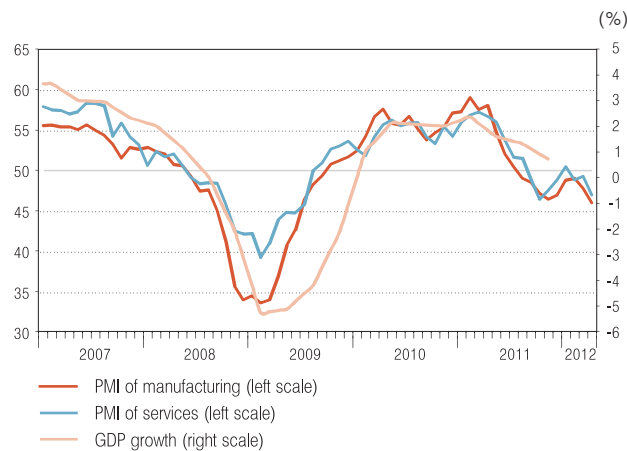


Source: European Commission.

Over the first quarter of 2012 the average value of the euro area PMI was below the neutral level of 50, only in January the composite index was higher. In April the composite PMI fell to 46.7 (previous value: 49.1), while production and services subindices came to 45.9 (previous value:

47.7) and 46.9 (previous value: 49.2). These developments may be associated with the expectations about contraction of economic activity in the first quarter of the year.

#### PMI of Manufacturing and Services and Euro Area GDP Growth



Source: European Commission.

Due to the deteriorating economic indicators for the euro area and negative trends in quarter-on-quarter growth rates, recorded in the fourth quarter of 2011, in February 2012 the European Commission (EC) revised the euro area GDP growth projection for 2012 to -0.3 per cent (the previous projection: 0.5 per cent). In the first and second quarters of 2012 real GDP is expected to change by -0.3 and 0 per cent quarter-on-quarter.

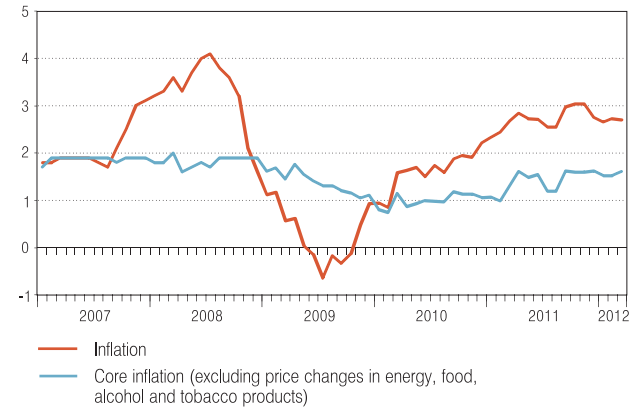
According to the latest ECB forecast of March 2012, real GDP growth in 2012 will range between -0.5 per cent and 0.3 per cent (the previous forecast: from -0.4 per cent to 1 per cent on an annual basis) and that for 2013 between 0 per cent and 2.2 per cent (previous forecast: from 0.3 per cent to 2.3 per cent).

The euro area inflation remained at 2.7 per cent on an annual basis in March and in the previous four months. On a monthly basis, HICP rose by 1.3 per cent in March *vis-à-vis* 0.5 per cent in February. The relatively high level of inflation was associated with the rising energy prices (by 8.5 per cent on an annual basis in March compared with 9.5 per cent in February), as well as increases in indirect taxes in some euro area countries. In March the annual change in euro area core inflation came to 1.6 per cent compared with 1.5 per cent in the previous two months.

The annual inflation declined to 2.3 per cent in Germany (previous value: 2.5 per cent) and 1.8 per cent in Spain (previous value: 1.9 per cent) in March 2012. In France and Italy consumer prices rose at a faster pace to 2.6 per cent and 3.8 per cent respectively compared to 2.5 per cent and 3.4 per cent in February.

#### Euro Area Inflation Rate

(percentage change on same period of previous year)



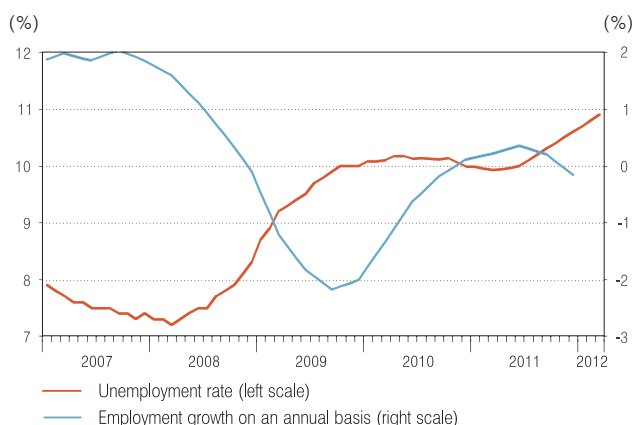
Source: Eurostat.

In February the EC revised upwards its forecast of euro area inflation for 2012 to 2.1 per cent compared to the previous projection of 1.7 per cent. The ECB projections of March 2012 were also revised upwards: the increase in euro area HICP is expected to move between 2.1 per cent and 2.7 per cent in 2012 (previous forecast: from 1.5 per cent to 2.5 per cent) and between 0.9 per cent and 2.3 per cent in 2013 (previous forecast: from 0.8 per cent to 2.2 per cent). Inflationary levels below 2 per cent are also projected in early 2013.

According to the Eurostat data, euro area unemployment in March 2012 reached a high level of 10.9 per cent against the previous value of 10.8 per cent. The indicator of the expected unemployment during the following twelve months included in the EC consumer confidence index declined to 33.5 in April (against the previous value of 34.7). Unit labour costs increased in the fourth quarter of 2011 by 1.3 per cent on an annual basis (1.2 per cent in the previous quarter). Over the same period compensation per employee picked up by 2.2 per cent (against 2.3 per cent) and labour productivity by 0.9 per cent on an annual basis (against the previous value of 1.1 per cent).



## Euro Area Unemployment Rate and Employment Growth



Source: Eurostat.

In the first quarter of 2012 the ECB kept the interest rates on its refinancing operations unchanged. The interest rate on the main refinancing operations remained at 1 per cent, while the rates on the deposit facility and marginal lending facility were set at 0.25 per cent and 1.75 per cent respectively.

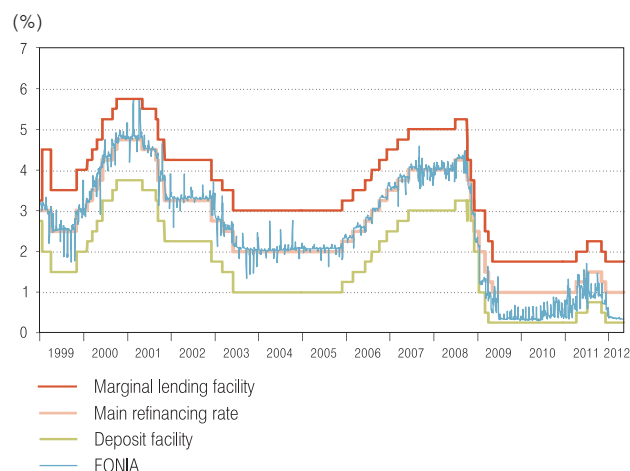
On 29 February 2012 the ECB conducted its second three-year long-term refinancing operation<sup>2</sup> and allotted EUR 529.5 billion. The volume of net refinancing extended in the two three-year operations was around EUR 500 billion. After the second three-year refinancing operation in February, the difference between the liquidity outstanding amount of the refinancing operations and the amount of the required reserves and autonomous factors of the euro area banking system increased to EUR 800 billion.

The demand for the standard operations conducted by the ECB remained very weak due to the three-year operation. The number of participants and the volume of the main refinancing operations fell significantly and by end-March the outstanding amount came to EUR 61.1 billion (against EUR 144.8 billion by 30 December 2011). At the same time, the decline in the demand for three-month long-term operations was weaker and by the end of the period their outstanding amount accounted for EUR 25.1 billion (against EUR 29.7 billion by 30 December 2011). The maturity structure of the ECB refinancing operations shows that by now 90 per cent of total refinancing was conducted via the two three-year operations.

<sup>2</sup> The first three-year operation was conducted on 21 December 2011, allotting EUR 489.2 billion.

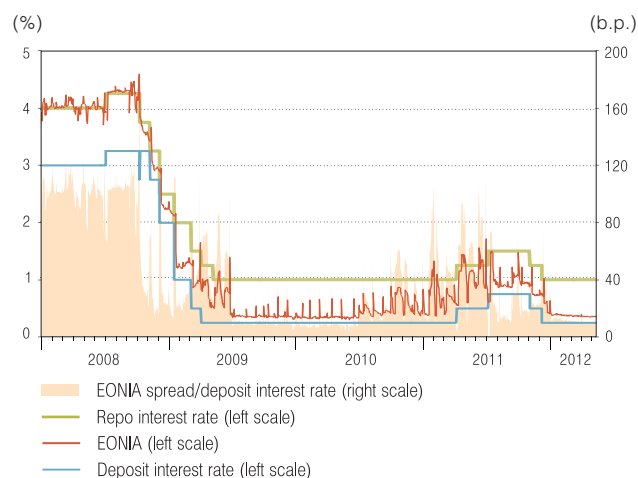
The ECB balance sheet figure reached EUR 2.964 trillion as of 30 March 2012: up 8 per cent on end-December 2011. Assets of the balance sheet rose to EUR 1.152 trillion re-financing operations (against EUR 849 billion by 30 December 2011), while liabilities increased to EUR 779 billion of funds on deposit facility (against EUR 414 billion by 30 December 2011).

## ECB Interest Rates



Source: Bloomberg.

## Short-term Interest Rates



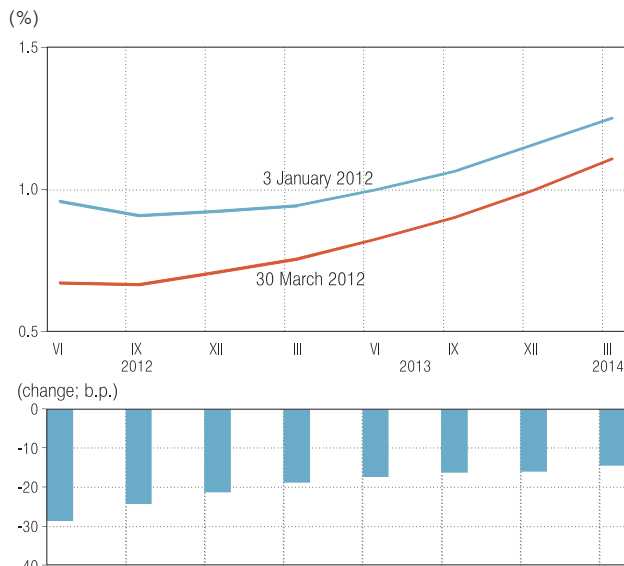
Source: Bloomberg.

The ECB continued implementing the non-conventional monetary policy measures. At the 9 February 2012 meeting seven Eurosystem central banks (Austria, France, Italy, Ireland, Spain, Portugal and Cyprus) were allowed to extend the eligible collateral used for refinancing operations. These central banks were permitted to temporarily admit credit claims as eligible collateral, in order to facilitate further banks' access to the ECB refinancing operations. Subsequently, on 23 March 2012, the ECB announced that central national banks are no longer obliged and could

reject covered bank bonds as collateral, guaranteed by governments which receive financial support under EU/IMF programmes, or by governments with an exceptionally low credit rating.

Anti-crisis measures were taken at the EU finance ministers meeting by the end of March 2012. European finance ministers agreed to boost the total size of EU stability mechanisms. The European Financial Stability Facility (EFSF) and the European Stability Mechanism (ESM) would be expanded to EUR 700 billion (EUR 800 billion, provided that EFSF current exposures are included). It was decided to shorten the term for Member States' deposits in the ESM's capital: two deposits are projected in 2012 and 2013, and the last one in the first half of 2014.

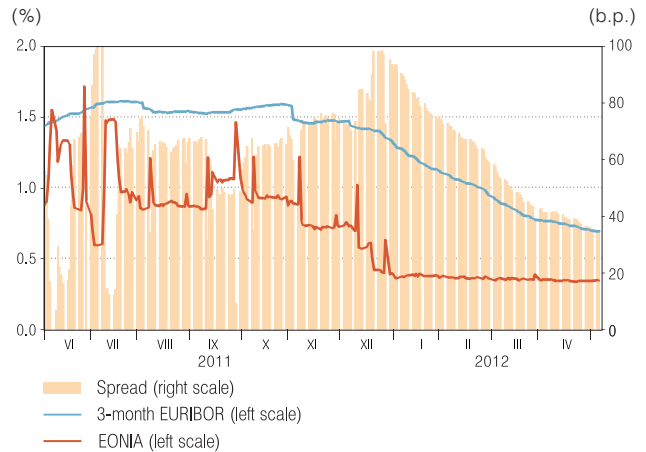
#### Expected Reference Interest Rate in the Euro Area Based on EURIBOR Futures



Source: Bloomberg.

In the first quarter a significant decrease in interbank deposit rates in the euro area was reported, along with a decline in liquidity and credit risk premia measured by the spread between the EURIBOR and OIS. EURIBOR interest rates with a maturity of up to one year dropped by 55 basis points on average. The one-, three- and six-month rates stood at 0.42 per cent, 0.77 per cent and 1.07 per cent respectively at the end of the review quarter.

#### Liquidity Risk Premium (Spread between the Three-month EURIBOR and EONIA)



Source: Bloomberg.

The EURIBOR-OIS spread in the three- and six-month segments reached 42 basis points and 72 basis points respectively, the lowest levels since early August 2011.

## Greek Sovereign Debt Restructuring

On 20 February euro area finance ministers announced that they have agreed on a second bailout package for Greece worth EUR 130 billion. The new financial support programme aims to bring the country's public debt-to-GDP ratio to 120.5 per cent by 2020. The restructuring of a larger portion of the Greek government debt held by private creditors plays a central role in the package. The main parameters of the new rescue package are:

- 53.5 per cent reduction in the face value of eligible Greek sovereign bonds held by private investors, with an aim to provide a debt relief of around EUR 107 billion.
- The coupon rate on the new bonds will vary with maturity: 2 per cent for the period between February 2012 and February 2015; 3 per cent in 2016–2020, and 4.3 per cent thereafter.
- The face value of the new bonds issued by the Hellenic Republic is equal to 31.5 of the face value of their exchanged bonds. In addition, investors get 15 per cent of the face value of debt exchanged in the form of two EFSF bills with a face value of EUR 15 billion and maturing in 2013 and 2014. Furthermore, they will also receive the accrued coupon payments on old bonds in the form of 6-month EFSF bonds worth up to EUR 5.5 billion.

To make use of the new rescue package Greece had to meet a number of conditions among which: detailed timeline of a set of 'prior actions' that needs to be completed before disbursement of the first loan tranche under the second bailout package; establishment of special segregated account to prioritize debt payments; tighter surveillance of the fiscal consolidation programme and strict implementation of agreed privatization plan.

The approval of the new package by the Eurogroup will allow the implementation of a market-based restructuring of Greek sovereign debt held by private creditors and the release of the next loan tranche of the first package before 20 March 2012 when 3-year government securities redeem for EUR 14.4 billion. By the restructuring deadline the Greek Ministry of Finance agreed to swap Eurobonds worth EUR 172 billion: EUR 152 billion in Greek-law government bonds and EUR 20 billion in foreign-law bonds.

Greek-law bonds eligible to participate in restructuring were EUR 177 billion. The restructuring was approved by investors holding 85.5 per cent or EUR 152 billion of the Greek debt and rejected by investors with a share of 5.3 per cent, or EUR 25 billion. Under the Greek law the acceptance was high enough to enable the Ministry of Finance to activate the so called Collective Action Clauses and force the other unwilling 5.3 per cent of investors to consent to the restructuring. The Ministry of Finance announced the activation of this clause and in this way the full amount of all bonds issued under the Greek law and eligible to participate in restructuring were exchanged with the new bonds.

Debt holders of 69 per cent of foreign law regulated bonds equal to EUR 20 billion agreed to participate in the restructuring. As Collective Action Clauses cannot be activated for these bonds, the Greek Ministry of Finance extended the deadline for restructuring until 20 April 2012 while calling more investors to accept the restructuring.

Since the European Central Banks has bought Greek government securities under the Securities Markets Programme, it does not participate in the restructuring of Greek sovereign debt. The ECB swapped its existing Greek government bond-holdings acquired under the Securities Markets Programme and from investment activities with new bonds issued by the Greek state, carrying the exact provisions and maturity structure as the old ones, except for new serial numbers (ISINs).

Upon considering the Greek sovereign debt restructuring, the International Swaps and Derivatives Association (ISDA) announced that a credit event has occurred and payments under existing CDS contracts ought to be made. On 19 March 2012 an auction was conducted to determine the closing price of the CDS which came to 21.75 per cent of bonds' nominal value. CDS buyers received net payments of USD 2.89 billion.

## Economic Development of EU-7<sup>1</sup>

In the fourth quarter of 2011 EU-7 growth rate continued to slow down with the Czech Republic and Romania reporting a decrease. The quarter-on-quarter real GDP for the EU-7 grew by 0.6 per cent compared with 0.7 per cent in the third quarter. Inflation accelerated reaching 1.2 per cent in the fourth quarter from 0.5 per cent in the third quarter of 2011<sup>2</sup>. The higher value added tax in the Czech Republic and the depreciation of the Hungarian forint and the Polish zloty contributed most to this.

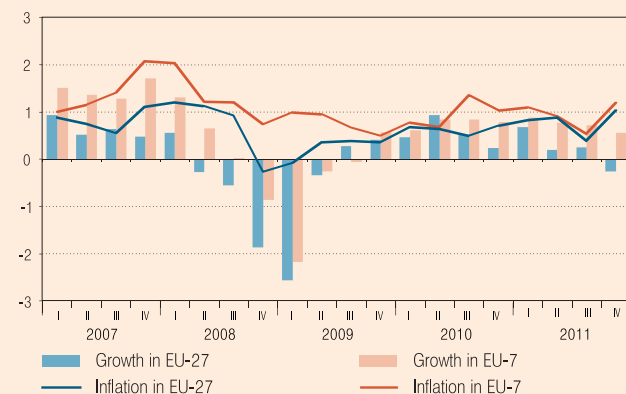
Changes in average growth and inflation indicators in the EU-7 imply divergent developments in individual countries.

In **Romania** net exports contributed to economic growth in the fourth quarter of 2011. The change in inventories continued to adversely affect growth and its contribution declined considerably in comparison with the third quarter. The industrial output and agricultural sectors reported lower gross value added due to the still weak domestic and external demand over the period, and consumer goods production swung. On the other hand, construction reported larger contribution to growth. Services also made a positive contribution with information and communication services contributing most sizeably thereto. Unemployment rate (seasonally adjusted data) remained unchanged over the review quarter while employment fell marginally. In November 2011 and January 2012 the central bank decreased its main policy rate by 25 basis points in two steps to 5.75 per cent after the relatively low pace of growth reported by the overall price level measured by HICP. Administratively controlled prices contributed most to inflationary pressure over the review period while food and energy prices added to the subdued inflation.

By end-2011 economic growth in **Hungary** slowed down on the third quarter largely due to the increase in net exports and the change in inventories resulting from the fall in domestic demand. On the supply side, manufacturing and construction had a positive contribution to economic growth, as construction saw a sizeable increase, after the fall observed earlier in the year. Financial and real estate services saw a sizeable decrease. Employment and unemployment in Hungary remained relatively unchanged

### Growth Rate of Real GDP and Inflation in EU-27 and EU-7

(%; quarter-on-quarter, seasonally adjusted data)



Sources: Eurostat, own calculations.

### Real GDP Growth

(%; quarter-on-quarter, seasonally adjusted data)

Country	2010				2011			
	I	II	III	IV	I	II	III	IV
Bulgaria	1.2	1.5	0.8	0.4	0.5	0.5	0.2	0.3
Czech Republic	0.7	1.0	0.7	0.6	0.5	0.3	-0.1	-0.1
Hungary	1.1	0.4	0.7	0.2	0.7	0.1	0.4	0.3
Latvia	1.1	0.1	0.8	1.1	1.1	2.0	1.5	1.1
Lithuania	0.5	0.6	1.0	2.2	1.4	1.7	1.3	1.0
Poland	0.7	1.0	1.4	0.9	1.0	1.2	1.0	1.1
Romania	-0.7	0.4	-0.8	0.9	1.1	0.2	1.1	-0.2
Average	0.6	0.8	0.8	0.8	0.9	0.8	0.7	0.6

Source: Eurostat.

### Contribution to Real GDP Growth

(%; percentage points)

Country	GDP growth, fourth quarter of 2011	Private consumption	Government consumption	Investments	Exports, net	Inventories
Bulgaria	0.3	0.4	-0.1	0.0	0.6	-4.2
Czech Republic	-0.1	0.0	-0.2	-2.1	-2.5	2.1
Hungary	0.3	-0.2	-0.1	-0.2	1.1	0.9
Latvia	1.1	0.5	-0.4	0.0	0.5	1.2
Lithuania	1.0	1.8	0.0	0.7	-0.8	-1.8
Poland	1.1	0.2	0.2	0.6	0.5	-0.3
Romania	-0.2	0.6	-0.1	0.5	1.1	-2.4

Sources: Eurostat, own calculations.

<sup>1</sup> EU-7 includes the newly acceded states, excluding Estonia, Slovenia, Malta, Cyprus and Slovakia. As of 1 January 2007 Slovenia, as of 1 January 2008 Malta and Cyprus, as of 1 January 2009 Slovakia and as of 1 January 2011 Estonia are members of the euro area. EU-7 indicators are calculated by weighing the time series; the weights of the relevant countries in total GDP of the group have been used in calculating growth, while in measuring inflation, the weights of EU-27 countries in HICP, as calculated by Eurostat, have been used.

<sup>2</sup> Harmonised Indices of Consumer Prices for the respective countries are used in the analysis.



## Inflation

(%; quarter-on-quarter, seasonally adjusted data)

Country	2010				2011			
	I	II	III	IV	I	II	III	IV
Bulgaria	0.6	1.5	0.8	1.2	1.1	0.3	0.5	0.6
Czech Republic	0.5	0.6	0.5	0.5	0.2	0.6	0.7	1.2
Hungary	1.1	1.0	1.1	1.0	1.0	0.7	0.8	1.5
Latvia	-0.8	0.6	1.0	0.9	1.3	1.3	0.9	0.6
Lithuania	0.8	0.4	0.8	1.0	1.0	1.8	0.7	0.5
Poland	0.4	0.4	0.9	1.0	1.2	0.8	0.7	1.4
Romania	1.7	0.9	3.5	1.5	1.5	1.6	-0.4	0.7
<i>Average</i>	<i>0.8</i>	<i>0.7</i>	<i>1.4</i>	<i>1.0</i>	<i>1.1</i>	<i>0.9</i>	<i>0.5</i>	<i>1.2</i>

Source: ECB.

## Unemployment

(%; quarter-on-quarter, seasonally adjusted data)

Country	2010				2011			
	I	II	III	IV	I	II	III	IV
Bulgaria	9.4	10.0	10.2	11.4	11.1	11.2	11.0	11.0
Czech Republic	7.8	7.3	7.1	7.0	6.9	6.9	6.6	6.7
Hungary	11.2	11.3	11.0	11.0	11.0	10.9	10.9	10.8
Latvia	20.0	19.3	18.2	17.0	16.3	16.1	14.7	-
Lithuania	17.3	18.3	18.2	17.5	16.3	15.6	15.3	14.3
Poland	9.8	9.6	9.5	9.6	9.4	9.5	9.7	10.0
Romania	7.5	7.2	7.2	7.2	7.1	7.5	7.5	7.5

Source: Eurostat.

compared with the previous quarter. In Hungary inflation measured by HICP accelerated mainly due to the depreciation of the Hungarian forint. Trying to influence the exchange rate of its currency in the fourth quarter of 2011 the central bank increased its main reference rate by 50 basis points in two steps and in December it reached 7 per cent.

In the fourth quarter of 2011 **Polish** economy continued to grow vigorously, largely due to the gross fixed capital formation and net exports. Industrial output and manufacturing contributed most to this while information and communication services reported moderate growth. The overall price level in Poland went up in the fourth quarter of 2011. The ongoing depreciation of the Polish zloty and some administratively controlled prices were the main drivers behind the intensified inflationary pressures. Employment reported a marginal increase in the fourth quarter but the increase of economically active population resulted in higher unemployment.

In the fourth quarter of 2011 **Latvia** reported high real GDP growth, although less pronounced than in previous periods. Changes in inventories and private consumption added to this growth while government consumption, on the other hand, had a negative contribution. Construction and agriculture had a substantial positive contribution but industrial output contracted. Favourable economic activity data in the second half year were reflected in the labour market pushing employment and curbing unemployment. End-year inflation moderated further mainly due to the weaker inflationary pressures reflecting lower international food prices.

Economic growth in the **Czech Republic** remained negative over the second half of 2011. The change in inventories was the only positive contributor to this growth and net exports and investments reported a sizeable decline. Construction and real estate services had a positive contribution, while agriculture and financial services dropped down sharply. The labour market saw no significant changes. The level of unemployment increased slightly but remained the lowest in the region (6.7 per cent). In the fourth quarter inflation in the Czech Republic accelerated largely reflecting the expectations of a higher price level in January 2012 resulting from the rise of the value added tax rate.

In the fourth quarter of 2011 **Lithuanian** economy continued to recover, albeit at a slow pace, posting a 1.0 per cent growth in real terms. Private consumption increased sizeably contributing most substantially to growth, while the change in inventories and net exports reported a decrease. The most pronounced increase in economic activity was reported in construction and information services while financial services and industrial production contracted. Enhanced economic activity over the year had a visible effect on the labour market where unemployment level went down by 1 percentage point in the fourth quarter after employment in construction, trade and logistics increased. Over the review period inflationary pressure in Lithuania weakened mainly due to the fall in international food prices. At the same time, administratively controlled prices continued to exert upward pressure on the overall price level.

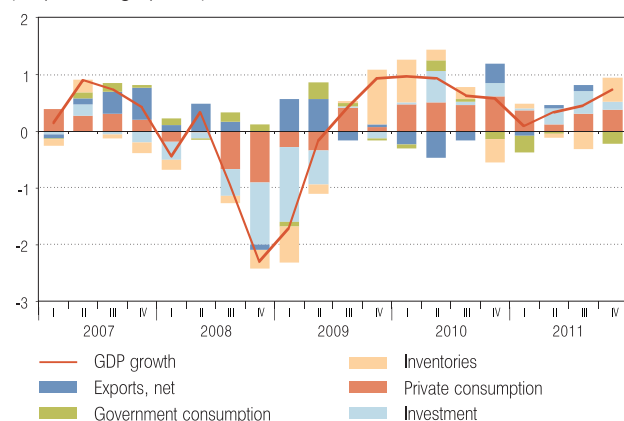
## United States

The US real GDP increased by 1.7 per cent in 2011 against 3 per cent growth in 2010. Household consumption and investment in the business sector had the largest positive contribution to this growth over the past year, while government consumption, change in inventories and net exports contributed negatively.

In the fourth quarter of 2011 real GDP growth in the USA reached 0.7 per cent on a quarterly basis, up from 0.5 per cent in the previous quarter. Over the same period it was 1.6 per cent on an annual basis *vis-à-vis* 1.5 per cent in the third quarter. Major factors behind growth were investment in the business sector and household consumption. Over the review period household consumption registered 0.38 percentage points contribution to GDP growth (0.31 percentage points in the previous quarter), while investment came to 0.14 percentage points (0.28 percentage points in the previous quarter). The change in inventories also made a positive contribution of 0.47 percentage points to real GDP growth in the review quarter (-0.34 in the previous quarter). Government expenditure continued to contribute negatively to economic growth by -0.23 percentage points (-0.01 in the previous quarter).

### Contribution to US GDP Growth by Component (Quarterly)

(%; percentage points)



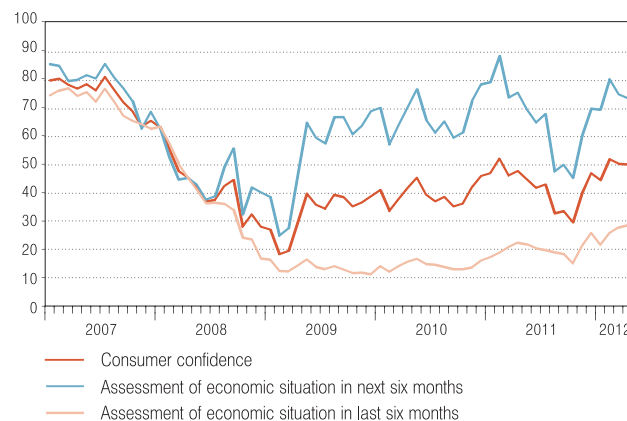
Source: Bureau of Economic Analysis.

US consumer confidence indicators continued to improve in the first quarter of 2012. In April the University of Michigan Consumer Sentiment Index increased to 76.4 percentage points compared to 76.2 percentage points in March.

The leading Conference Board<sup>3</sup> Consumer Confidence Index also recorded a significant improvement of the consumer sentiment, but at the end of the period it was negatively affected by the fuel price rises. The participants had more optimistic expectations about the current economic situation and prospects in the coming six months.

### US Consumer Confidence Indices

(2000 = 100)



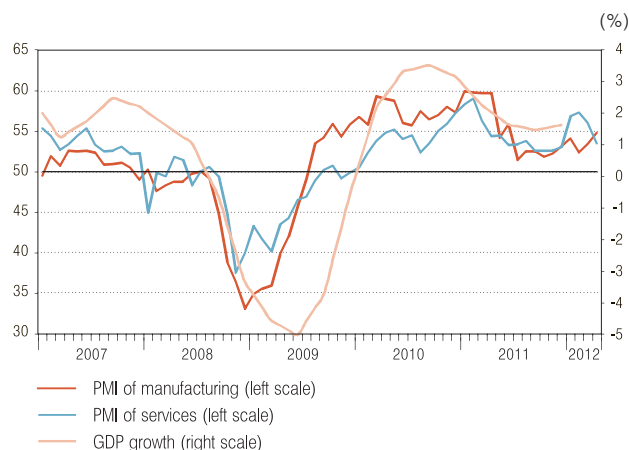
Source: The Conference Board.

Positive trends on the labour market also contributed to the consumer confidence strengthening. Demand for goods and services increased in the review period. Growth in retail sales, accounting for almost 60 per cent of the household consumption in GDP, reached 1.7 per cent in the first two months of the year against 1.3 per cent in the last quarter of 2011. The improvement was even more marked on a monthly basis, up by 1.1 per cent in February against 0.6 per cent in January and -0.2 per cent in December 2011.

In the first quarter of 2012 tax incentives and higher consumer demand continued to support investment activity in the business sector. Easing price pressures on production resources and strong sales in the review period contributed to the corporate profit growth. Measures taken by the US Federal Reserve System to cut interest rates at the long end of the reference curve, made the financing conditions advantageous for the companies through the corporate bond issue.

<sup>3</sup> The Conference Board (Organisation for Economic Research).

## US ISM-PMI of Industry and Services and GDP Growth



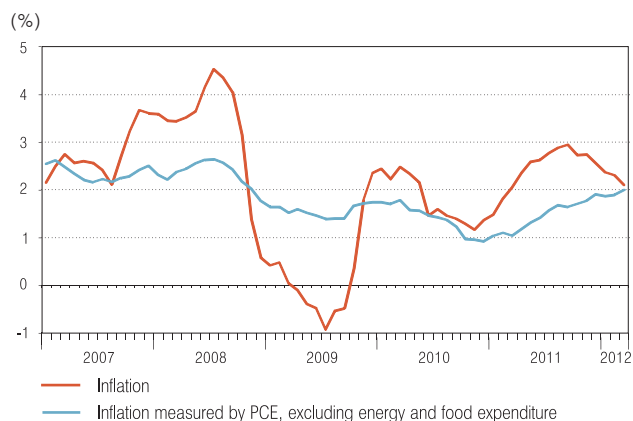
Source: Institute for Supply Management.

Since early 2012 major economic industrial and services indicators reported improved expectations for economic activity in the USA. In April 2012 ISM-PMI for industry went up to reach 54.8 points *vis-à-vis* 53.4 points in March. These developments indicate strengthening of economic activity in the USA.

The low investment activity in the housing sector is expected to continue to affect adversely the gross capital formation in the following quarters. Since early 2012 the National Association of Home Builders (NAHB) index continued to grow. Regardless of improving expectations of the building entrepreneurs, households prefer to delay a home purchase, according to the latest confidence survey by the Conference Board. The still high level of unemployment, tight credit conditions and ongoing decline of house prices continued to impede home sales growth despite low mortgage rates. These factors will continue to negatively impact the recovery and investment activity in the sector.

Inflation measured on an annual basis by personal consumption expenditure (PCE) deflator decreased to 2.1 per cent in March against 2.3 per cent in February. The personal consumption expenditure index rose to 2.0 per cent in March against 1.9 per cent in the previous three months. The annual growth rate of the personal consumption expenditure index is anticipated slightly to rise in the second and third quarters of 2012, but to remain close to its current level.

## US Inflation Rate

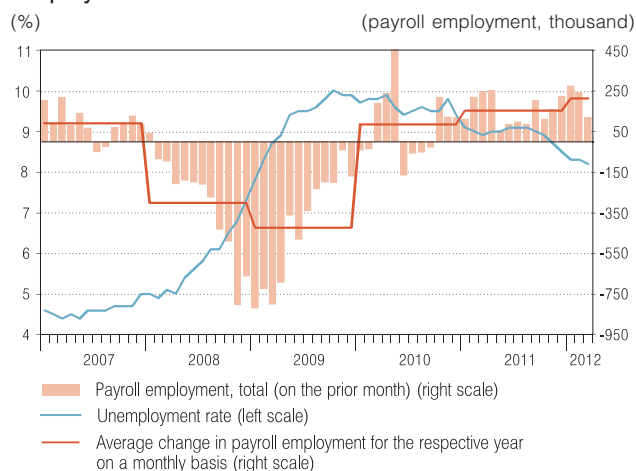


Note: Inflation is measured by the personal consumption expenditure deflator.

Source: Bureau of Labor Statistics.

The change in a consumer price index, the other measure of the US inflation, posted a decline of 2.7 per cent on an annual basis in March 2012 against 2.9 per cent in the January and February. The core PCE price index rose to 2.3 per cent in March against 2.2 per cent a month earlier. Expected domestic consumer price inflation up to one year, which is a component of the University of Michigan consumer confidence index, increased significantly in March (to 3.9 per cent from 3.3 per cent in January and February), while long-term inflation expectations rose only slightly. In the first half of 2012 the US consumer price inflation is expected to gradually stabilise at a level close to but above 2 per cent. The pressure and uncertainty about Iranian oil supply along with the impact on the crude oil risk premium related to the geopolitical factors create a significant risk of inflation over 2 per cent.

## US Unemployment Rate and Changes in Payroll Employment

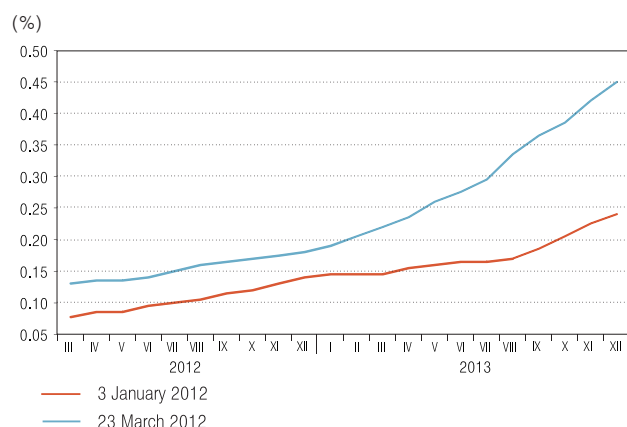


Source: Bureau of Labor Statistics.

US unemployment rate in January and February 2012 continued to decline and remained high *vis-à-vis* the long-term pre-crisis average. In February the indicator remained unchanged compared to the level of 8.3 per cent in January and fell slightly from 8.5 per cent at the end of the fourth quarter of 2011. In February 227,000 new jobs were created in the non-agricultural sector (against 284,000 in January and 223,000 in December). In January and February 2012 the new jobs came to 256,000 on average *vis-à-vis* 167,000 in the previous quarter. In 2012 unemployment rate is expected to decline further.

At its 13 March meeting the US Federal Reserve Open Market Committee (FOMC) decided to continue implementing the programme for extension of average maturity of the assets in the Federal Reserve portfolio. Committee members also decided to keep the federal funds rate unchanged between 0.00–0.25 per cent to support the economic growth even amid lower short-term inflationary expectations. According to their assessment in January 2012, the federal funds rate would remain unchanged until late 2014. The members of the Committee also approved that the Federal Reserve balance sheet figure will stay at its current level through reinvestment of earnings from mortgage-backed securities from the Federal Reserve assets and debt securities of government agencies in mortgage bonds, while the earnings of US maturing government securities will be further reinvested in new US government securities.

#### Expected Reference Interest Rate on US Federal Funds Based on Futures Contracts



Source: Bloomberg.

Expected reference interest rate in the money market on US federal funds based on futures contracts remained unchanged to the end of

2012. Market expectations will continue to retain the cost of US short-term resources at levels close to those of the first half of 2012.

## China

The National People's Congress held its plenary session in early March, when the target levels for the key economic variables were announced<sup>4</sup>. Real GDP growth for 2012 was projected to decrease to 7.5 per cent for the first time since 2005. The growth is expected to be 7.0 per cent on average between 2011 and 2015. The new objectives were focused on the quality of economic growth rather than on growth rate.

#### Major Economic Indicators for the Chinese Economy in the Last Five-year Plan Period (2006–2010)

(% on an annual basis)

Year	GDP	Inflation	M2
2005	11.3	1.5	17.6
2006	12.7	1.7	16.9
2007	14.2	5.5	16.7
2008	9.6	5.3	17.8
2009	9.2	-0.7	27.7
2010	10.4	3.7	19.7
2011	9.2	5.5	12.7
2012 (assessment)	7.5	4.0	14.0

Source: Bloomberg.

Inflation objectives remained unchanged (4 per cent), as well as the 14 per cent increase in monetary aggregate M2. The planned budget deficit of 1.1 per cent of GDP in 2011 increased to 1.5 per cent of GDP in 2012. The planned measures show that the focus of government policy has been shifted from significant infrastructure investment to health, education and social services. The share of budget planned for education rose to 4 per cent of GDP. In 2012 the measures for reducing house purchases remained in effect for the purpose of speculative investment. The introduction of a facility is possible only for families looking to purchase their first home.

China's economic growth data for the first quarter of 2012 show an annual GDP growth of 8.1 per cent (against 8.9 per cent in the prior quarter) compared to the expected 8.4 per cent. The growth was 1.8 per cent on a quarterly basis. In nominal terms annual growth amounted to 11.2 per cent in the first quarter of 2012

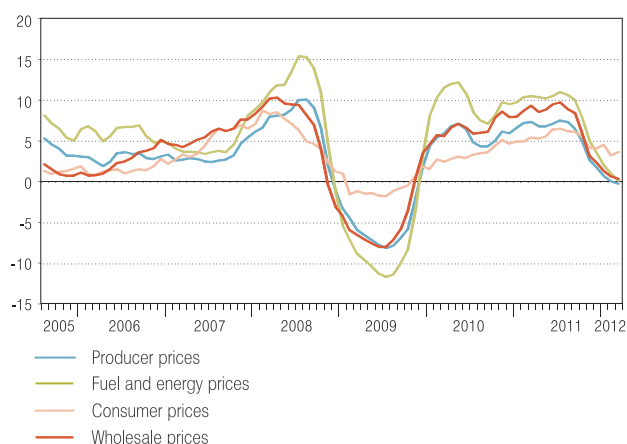
<sup>4</sup> The NPC formally approved the five-year plan for national economic and social development for 2011–2015, offered by the government.



(against 16.6 per cent in the fourth quarter of 2011), suggesting 2.9 per cent GDP deflator *vis-à-vis* 7.1 per cent in the fourth quarter of 2011. Investments in tangible fixed assets in the first quarter went up by 20.5 per cent on an annual basis, which is less than the expected 20.9 per cent. The moderation was mainly due to the residential construction, rising at a slower pace.

A large number of macroeconomic indicators for the Chinese economy point to a slowdown in the economic activity over the first quarter of 2012.

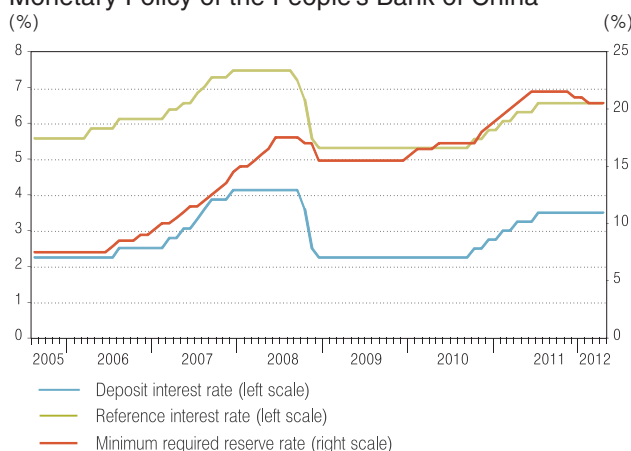
### Inflationary Indices



Source: Bloomberg.

In January and February the annual inflation continued declining to reach 4.5 per cent and 3.2 per cent respectively, while the producer prices in February remained unchanged. The low inflationary pressures of fuel and food prices were partially offset by rising household expenditures.

### Monetary Policy of the People's Bank of China

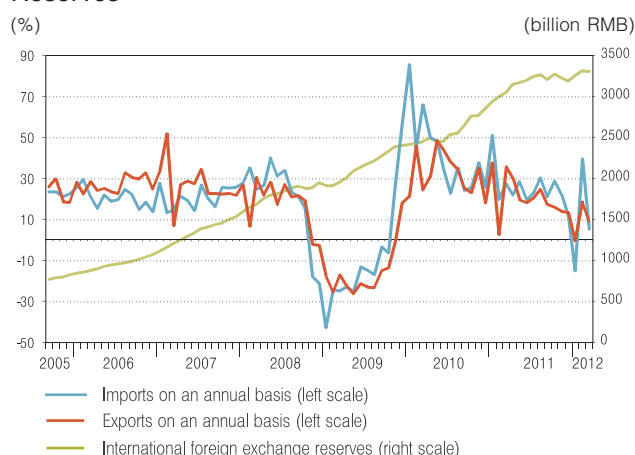


Source: Bloomberg.

In February 2012 the People's Bank of China lowered the banks' reserve requirements ratio by another 50 basis points to 20.5 per cent.

The worsening of global environment in the second half of 2011 affected negatively Chinese exports. As a result, China's foreign currency reserves fell by -1.6 per cent and -1.2 per cent in November and December. In January 2012 exports exhibited a 0.5 per cent decline on an annual basis, while China's balance of trade was negative (USD -31.5 billion) in February.

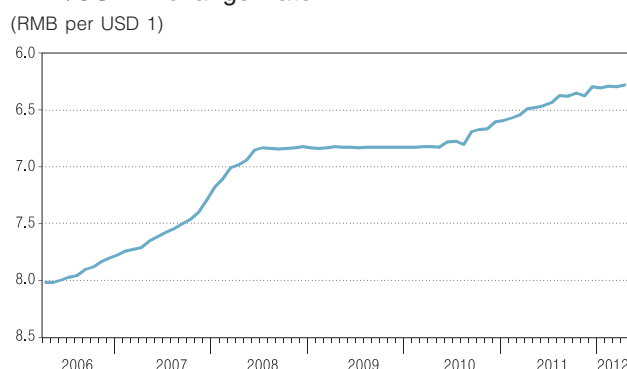
### Foreign Trade and International Foreign Exchange Reserves



Source: Bloomberg.

The exchange rate responded flexibly to changes in the international reserves and its appreciation came to an end. The Chinese currency (renminbi) depreciated between January and March by 0.06 per cent against the US dollar.

### RMB/USD Exchange Rate



\* The chart scale is inverted, the upward movement shows an appreciation.

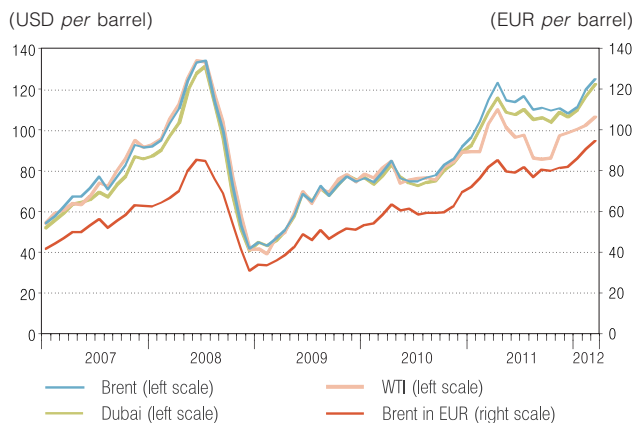
Source: Bloomberg.

## International Prices (Crude Oil, Major Raw Materials, and Gold) and the EUR/USD Exchange Rate

### Crude Oil Prices

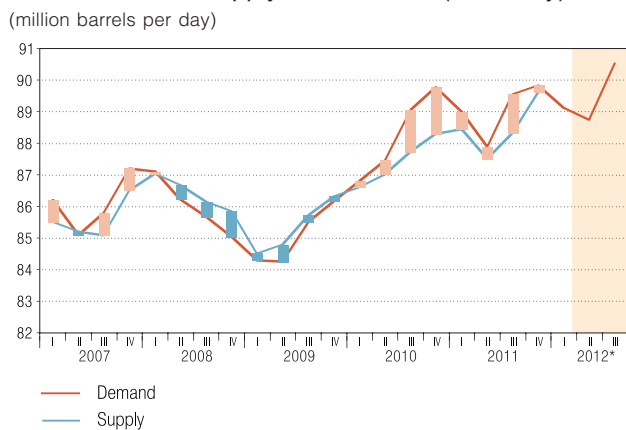
In the first quarter of 2012 the price of Brent crude oil in US dollars increased to USD 118.6 per barrel on average (EUR 89.8 per barrel). The higher price of crude oil on international markets reflected USA and EU-imposed sanctions against Iran – one of the world's major oil exporters – targeting the country's foreign trade and banking system.

#### Crude Oil Prices



Source: World Bank.

#### World Crude Oil Supply and Demand (Quarterly)



\* Crude oil demand projection (IEA, February 2012).

Source: IEA.

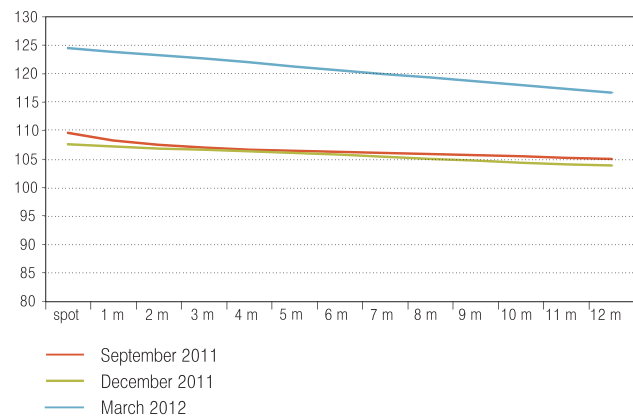
In February 2012 the International Energy Agency (IEA) revised downwards its crude oil market data for the fourth quarter 2011, but the trend towards growing supply and demand was still sustained. Increases in oil production and exports were reported by both OECD and OPEC countries, the two major groups of producing countries. IEA expectations for the second and third quarters of the year show that crude oil demand (corrected

for seasonal factors) will continue to rise in line with the global economic recovery.

The increasing political tension in the Middle East continued to negatively affect the expectations for future oil price developments. According to the market sentiment measured by March 2012 futures prices, Brent crude oil was expected to be traded in the range between USD 115–125 per barrel in the next twelve months.

#### WTI Crude Oil Futures Prices (Average Price of the Contract in the Corresponding Month)

(USD per barrel)



Source: JP Morgan.

### Major Raw Material and Commodity Prices

Over the first quarter of 2012 steel prices fell by an average of 4.1 per cent on the previous quarter. According to ECB data, the general metal price index grew by 3.8 per cent in the same period. Non-ferrous metal prices surged by 6.1 per cent, copper (10.8 per cent), tin (10 per cent) and zinc (6.4 per cent) rising most significantly. Metal prices are expected to stabilise over the third quarter of 2012.

The index recording the global food price level declined between January and February by 0.3 per cent on the previous quarter, continuing its downward trend since end-2011. Some food prices posted an increase: wheat and meat rose by 1.2 per cent and 6.2 per cent respectively, while the price of rice fell by 10.9 per cent.

In February the International Grains Council revised upwards its forecast of the cereal production in 2012. The cereals produced in 2012 are expected to increase by 5.0 per cent compared to 2011 and consumption to grow by 2.9 per cent. Therefore, no rise in cereal prices is anticipated in international commodity markets in the second and the third quarters of 2012.

## Gold Prices

In the first quarter of 2012 the average spot price of gold went up by 0.5 per cent on a quarterly basis to USD 1691.1 per troy ounce. In euro terms, the price of gold posted 3.1 per cent growth due to its depreciation over the review period against the US dollar.

Since the beginning of the year, gold has been trading like a risk-on asset. Its price closely reflected US stock market indices dynamics and commodity price developments. The expectations for new monetary stimulus by the Federal Reserve contributed strongly to the gold price dynamics.

Demand for physical gold by exchange-traded funds (ETFs), collateralised by gold, picked up since the beginning of 2012. However, at the end of the first quarter ETF assets started to decline slightly. By 31 March 2012 the assets of funds investing in gold accounted for 2397 tonnes of gold. The gold assets of the SPDR Gold Trust, the largest gold-backed exchange-traded fund, rose by 2.6 per cent over the review period, whereby the fund managed 1287 tonnes of gold as of 31 March.

Based on International Monetary Fund data, the biggest purchases of gold in the first quarter were made by the central banks of Kazakhstan (7.6 tonnes) and Turkey (4.1 tonnes).

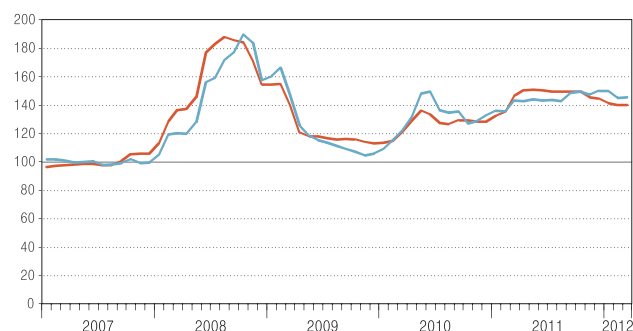
In early 2012 India changed its system for determining gold import duty from the fixed amount of INR 300 *per* 10 grams to 2 per cent of the value, an act for doubling the duty. On 16 March 2012 India doubled its import duty on gold for the second time by raising from 2 per cent to 4 per cent. This step limited the demand for physical gold in India.

The London Bullion Market Association (LBMA) predicted an increase in the average gold price to USD 1766 *per* troy ounce in 2012. Low real interest rates and central banks' demand for gold are expected to push up gold prices.

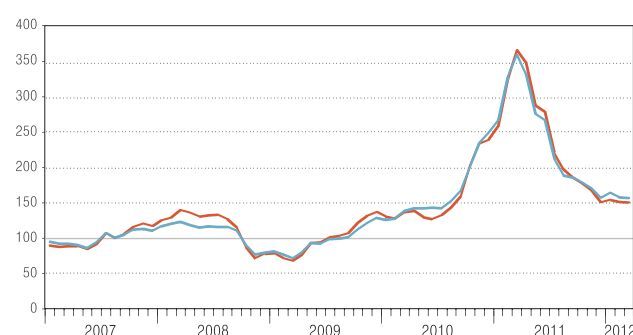
## Price Indices of Major Raw Material and Commodity Groups

(2007 = 100)

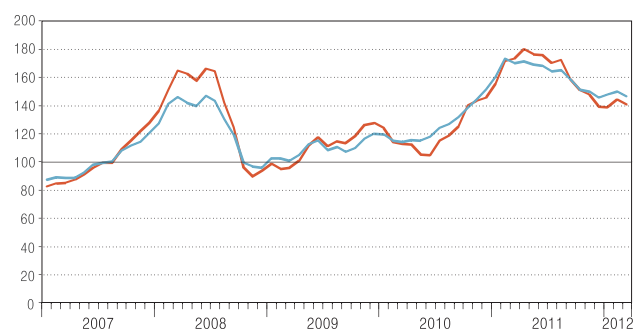
### Steel



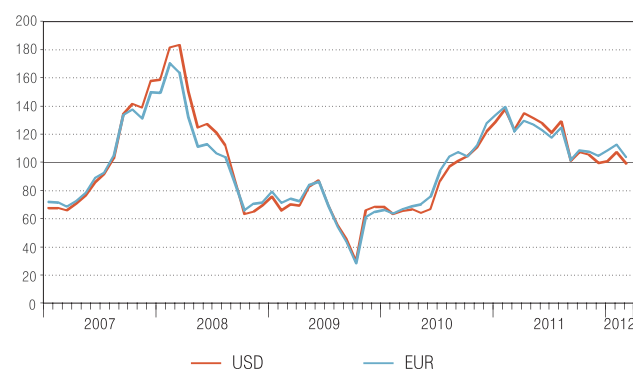
### Copper



### Food

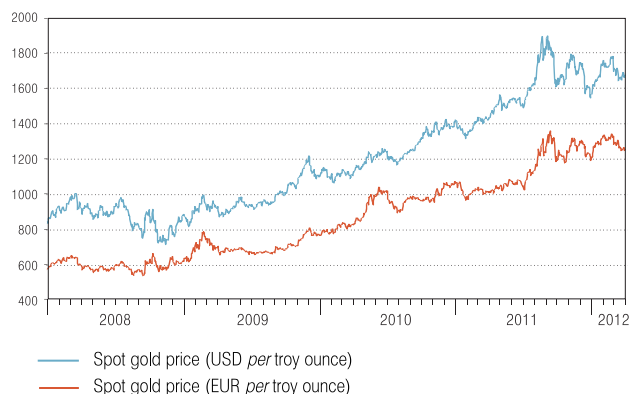


### Wheat



Sources: World Bank, ECB and BNB.

## Spot Price of Gold



Source: Bloomberg.

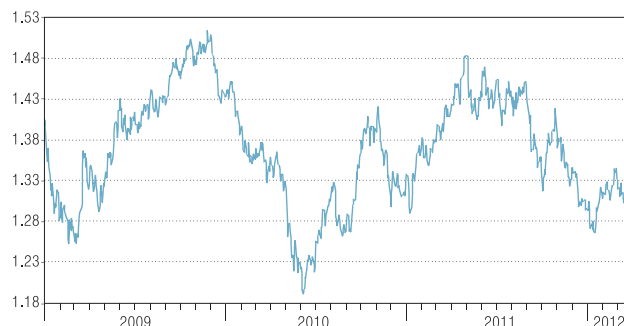
## The EUR/USD Exchange Rate

In the first quarter of 2012 the average value of the US dollar appreciated against the euro (by 2.6 per cent). Over the period the US currency traded within a range of 1.27–1.35 per euro. Between January and March 2012 the cumulative appreciation of the euro against the US dollar was 3.2 per cent. Long-term interest rate differential between US and euro area had insignificant impact on the developments in the exchange rate between January and February. The main factor affecting the exchange rate was the high degree of uncertainty about the second EU-IMF financial assistance package for Greece

and the debt-restructuring agreement with Greece's private creditors. On 28–29 February 2012 the second EUR 130 billion bailout package for Greece was agreed, contributing to improving market sentiment. Another key factor was the second three-year long-term refinancing operation of the ECB.

## The USD/EUR Exchange Rate

(USD per EUR 1)



Source: ECB.

In March interest rate differential became a main factor at the expense of the risk appetite. The Federal Reserve statement contributed to it stating that the Committee currently anticipates that economic conditions are likely to warrant low levels for the federal funds rate at least through late 2014. This constitutes a change in the mid-2013 date given in the statement of the previous FOMC meetings.



## 2. Financial Flows, Money and Credit

---

On an annual basis, the current account recorded a 0.1 per cent deficit of GDP as of February 2012, while the overall current and capital account balance remained positive at a surplus of 1.2 per cent of GDP. In the first two months of 2012 the cumulative current and capital accounts balance was negative at EUR 380.8 million.

The balance of payments financial account balance for January and February 2012 was negative and amounted to EUR 652 million, reflecting mainly bank operations oriented towards an increase in their foreign assets and a decrease in their foreign liabilities. According to the 2012 balance of payments data, international foreign exchange reserves (excluding valuation adjustments and changes related to the price of gold) decreased by EUR 685.3 million<sup>1</sup>.

By end-April 2012 the market value of international foreign reserves (assets in the BNB Issue Department balance sheet), which includes revaluation adjustments, came to BGN 26.2 billion (EUR 13.4 billion), up BGN 77.1 million (EUR 39.4 million) on end-2011. The increase in the price of gold over the review period affected also market dynamics of foreign reserves.

The change in the international reserve market value is mainly driven by liabilities developments in the balance sheet of BNB Issue Department<sup>2</sup>. Liabilities to other depositors, which increased their deposits with the BNB by BGN 252.5 million (EUR 129.1 million) in the first four months,

---

<sup>1</sup> The errors and omissions item was positive at EUR 347.5 million between January and February 2012.

<sup>2</sup> According to Article 28, paragraph 1 of the Law on the BNB, 'the aggregate amount of monetary liabilities of the BNB shall not exceed the lev equivalent of gross international reserves,' with the lev equivalent determined on the basis of the fixed exchange rate. Pursuant to Article 28, paragraph 2 of the Law on the BNB, the Bank's monetary obligations include all circulating banknotes and coinage issued by the BNB, and all BNB account balances held by other persons with the Bank except those of the IMF. For further details see The Principles of Operation of the Currency Board in Bulgaria box, Economic Review, 1/2009, p. 18–19.

contributed mostly to the rise in the balance sheet value. The seasonal decline in banknotes and coins in circulation by BGN 336.1 million (EUR 171.9 million) had the major negative contribution to the change in the balance sheet value.

Dynamics of the government deposit which is an important part of Issue Department's liabilities is determined by the fiscal policy and budget deficit financing policy. Over the first quarter the government deposit with the BNB fell by BGN 333.6 million (EUR 170.6 million). In April, however, it increased by BGN 435.2 million (EUR 217.4 million), with the transfer of BGN 180.5 million (EUR 92.3 million) made by the BNB on 27 April to the government budget contributing also to this. It comprises 75 per cent of the annual excess of Bank revenue over expenditure in 2011. Between January and April 2012 government deposit with the BNB rose by BGN 91.6 million (EUR 46.8 million).

Bank reserves with the BNB increased by BGN 73.4 million (EUR 37.5 million).

Information about the major operations of the central bank provides additional data on money flow developments which led to more significant changes in gross international reserves.

On a cash basis, disregarding valuation adjustments and changes in the price of gold, gross international reserves decreased by EUR 267 million between January and March 2012. Banks' net purchases of euro from the BNB came to EUR 397 million, with bank reserves denominated in euro decreasing by EUR 163 million. These bank operations were underpinned by the increase in their foreign assets and the decrease in their foreign liabilities, with relevant transactions reported in the balance of payments.

In February 2012 the average monthly coverage of imported goods and services by BNB international reserves was six months<sup>3</sup>.

<sup>3</sup> The average value of imports of goods and services for the last 12 months and BNB reserves by the end of February 2012 were used in the calculation of this indicator.

## Monetary Flows Which Prompted Significant Changes in Gross International Reserves

(million EUR)

External Flows	January – December 2011	First quarter 2011	First quarter 2012
Total for the period	-27	-672	-267
Purchases and sales of euro	-543	-707	-400
at tills	-11	-3	-2
banks, incl.	-532	-704	-397
banks' purchases	33 698	7 902	10 668
banks' sales	-34 230	-8 606	-11 065
Flows on accounts of banks, the MF, etc.	516	35	132
Minimum required reserves	-128	73	-163
Government and other depositors	644	-38	295

\* Preliminary data.

Source: BNB.

## Financial Flows and External Position Sustainability

Balance of payments current account balance in the January to February 2012 period was negative at EUR 388.2 million, and the total current and capital account balance also recorded a deficit of EUR 380.8 million.

On an annual basis, the current account recorded a 0.1 per cent deficit of GDP, while the overall current and capital account balance remained positive at 1.2 per cent of GDP. In the third quarter of 2012 the current and capital account balance is expected to remain positive on an annual basis as a result mainly of the sustained positive balance on trade in services and net receipts in the form of current and capital transfers.

In the January to February 2012 period the balance of payments financial account recorded a deficit of EUR 652 million. Transactions of resident banks which increased their foreign assets by EUR 520.6 million and reduced their external obligations by EUR 205.7 million over the review period contributed most significantly to this deficit.

Based on balance of payments preliminary data, in January and February 2012 foreign direct investment inflow into Bulgaria was positive at EUR 84.6 million<sup>4</sup>. The bulk of this inflow was in the form of equity capital in the amount of EUR 86.5 million and reinvested earnings in the banking sector of EUR 17.8 million. The net amount of the other capital item was negative

<sup>4</sup> Preliminary data that are subject to revision upon receipt of additional information from direct investment enterprises.

at EUR 19.8 million.<sup>5</sup> Over the first two months non-residents' investment in real estate came to EUR 32.7 million (EUR 16.9 million in the same period of 2011).

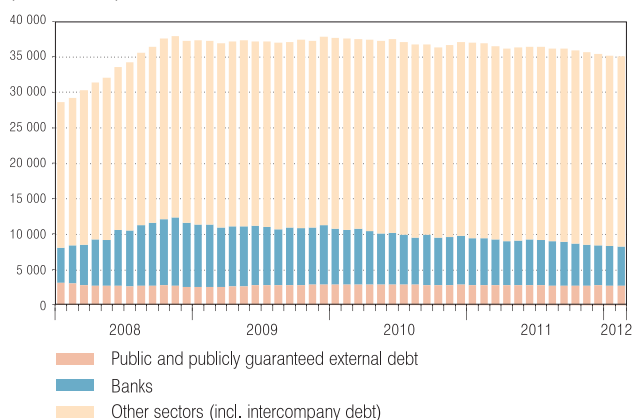
In 2011 foreign direct investment inflows were directed mainly to transport (EUR 498.4 million) and trade (EUR 223.2 million). In December 2011 the economic sectors with a considerable share in the stock of foreign direct investment were real estate operations and business services (22.1 per cent), financial intermediation (17.7 per cent) and manufacturing (16.8 per cent).

<sup>5</sup> The reasons for the negative net value of the other capital item are explained in the BNB March 2012 Balance of Payments publication. According to the preliminary data, the difference between the flows for the reporting period and for the corresponding period of the previous year resulted mainly from intercompany loans and the repayments thereon in accordance with the repayment schedules of corporations.

The composition of FDI by country in the January–February 2012 period suggests that foreign direct investment attracted from Netherlands (EUR 25.4 million), South Korea (EUR 16.6 million) and Russia (EUR 13.1 million) accounted for the largest shares. Net negative flows were reported to the UK (EUR -9.3 million) and Sweden (EUR -7.6 million), reflecting mainly payments in intercompany loans in line with the repayment plans of Bulgarian corporations<sup>6</sup>.

In February 2012 net foreign direct investment accounted for 2.5 per cent of annual GDP for the last four quarters. In the second and third quarters of 2012 FDI inflow is expected to remain close to the current level of 2.5 and 3.5 per cent of GDP. Downside risks to FDI inflow are related to a possible new deepening of euro area problems and lower capital inflow which may result in FDI levels close to zero or even slightly negative values, given the continued payments on intercompany loans. However, FDI inflows into Bulgaria may increase in case of faster resolution of euro area government debt problems and business climate improvements.

**Gross Foreign Debt by Institutional Sector**  
(million EUR)



Source: BNB.

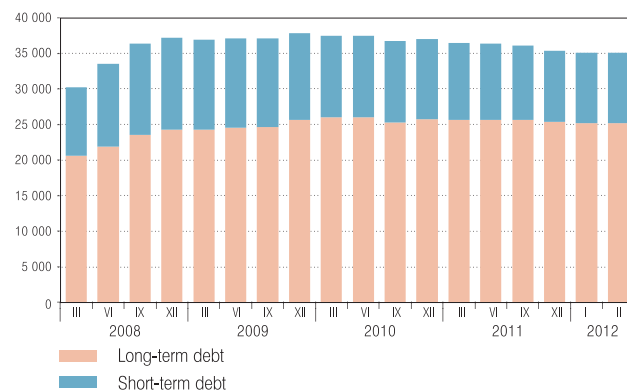
The banking and non-banking private sectors continued to repay their external liabilities, thus reducing gross external debt. Between January and February 2012 it decreased by EUR 305.5 million to EUR 35.1 billion, or 91.2 per cent of GDP reported for the last four quarters. Net repayment of borrowed funds amounted to EUR 708.1 million (valuations and changes in trade and revolving loans excluded). In the first two months of the year loans and deposits came to EUR 275.8 million, the bulk of which

<sup>6</sup> See footnote 5.

(35.4 per cent) was directed to banks. Principal payments amounted to EUR 615.8 million against EUR 973.2 million in the corresponding period of the previous year.

In the maturity structure of gross external debt, short-term external debt trended downwards. It decreased by EUR 1081 million on an annual basis, its share falling to 28 per cent compared to 30 per cent a year earlier.

**Long- and Short-term Gross External Debt Dynamics**  
(million EUR)



Source: BNB.

In the currency structure of gross external debt, obligations in euro retained their high relative share at 88.6 per cent at the end of December 2011. By sector, debt in euro occupied the largest share in intercompany loans (92.6 per cent), and the smallest share in the general government sector (75.9 per cent).

Private non-guaranteed external debt declined by EUR 217.6 million between January and February 2012, with the decrease in non-residents' short-term deposits contributing most significantly (EUR 212.8 million). Non-bank sector enterprises decreased their external liabilities by EUR 97.1 million. Over the same period intercompany loans increased by EUR 14.8 million. In February the share of intercompany loans in the total amount of external debt was 42 per cent.

Banks' obligations to foreign parent banks incurred in connection with financing their operations in Bulgaria occupied the largest share in banks' external debt (68 per cent in December 2011). The relatively high resident bank liquidity allowed them to reduce their dependence on external financing by repaying their external obligations.<sup>7</sup>

<sup>7</sup> For further details on the banking system see the Monetary Aggregates and Credit Aggregates Sub-sections.

In the first two months of 2012 external debt of the general government sector posted a decrease of EUR 61.6 million. Total public and publicly guaranteed external debt fell by EUR 87.9 million, occupying 11.8 per cent of Bulgaria's gross external debt. New loans and deposits disbursed to the general government sector amounted to EUR 43.1 million, up EUR 28.2 million on the same period of the previous year.

The average weighted interest rates on new loans declared over the review period suggest that the cost of external borrowed funds in euro decreased year-on-year by 0.1 percentage points to 4.1 per cent and in US dollars by 0.3 percentage points to 3.1 per cent respectively.

In December 2011 there was no notable change in the sectoral structure of private non-bank external debt. Real estate operations and business services (23.9 per cent), followed by electricity, gas and water (20.8 per cent), trade and repair of motor vehicles and motorcycles (10.5 per cent) and financial intermediation (10 per cent) occupied the largest share in external debt of other sectors. The most significant weight in intercompany loans was occupied by telecommunications (17.7 per cent), real estate operations and business services (13.9 per cent) and financial intermediation (12.1 per cent).

Bulgaria's gross foreign assets decreased by EUR 31.5 million between January and February 2012, with BNB international reserves falling by EUR 559.5 million and local banks' foreign assets rising by EUR 528 million. As a result of gross foreign asset and gross external debt dynamics, net external debt decreased by EUR 274 million, reaching in February 2012 EUR 15.5 billion, or 40 per cent of GDP reported for the last four quarters.

On an annual basis, in February current and capital account surplus amounted to 1.2 per cent of GDP reported for the last four quarters against the 0.4 per cent GDP surplus a year earlier. In the January to February period the current and capital account deficit was EUR 380.8 million against a surplus of EUR 19.8 million in the corresponding period of 2011.

In January and February 2012 the decrease on the same period of the previous year was a result of the increased deficit of the goods and services balance and reduced positive balance

of net current transfers. On an annual basis, only the balance on income account posted an increase. The capital account recorded a surplus of EUR 7.4 million, reflecting net receipts from EU funds.

In the first two months trade deficit increased by EUR 410.6 million on the corresponding period of the previous year, reaching EUR 466.6 million. In euro nominal terms, exports decreased by 6.1 per cent and imports increased by 7.1 per cent on an annual basis.<sup>8</sup> The decline in exports reflects lower demand by Bulgaria's major trading partners at the end of 2011 and in early 2012. The increase in imports is a result of the relative improvement in domestic demand at the end of 2011 and international price rises in major imported goods in early 2012.

The balance on services reported a surplus of EUR 78.1 million over the January to February 2012 period against a surplus of EUR 85.3 million in the corresponding period of the prior year. Lower surplus is a result mainly of decreases in revenue from other services. At the same time, expenditure on travel of residents fell most significantly in the structure of services imports. Earnings on the credit side (exports of services) decreased by EUR 14.5 million and the improvement on the debit side (imports) amounted to EUR 7.3 million.

In January and February 2012 the deficit on the income account amounted to EUR 51.8 million, improving by EUR 185.8 million on the corresponding period of 2011. This positive dynamics reflects mainly the lower income paid on foreign direct investments (an improvement by EUR 144.3 million). Part of this income represents reinvested earnings reported in the balance of payments financial account as foreign direct investment.

Net current transfers reported for the January to February 2012 period amounted to EUR 52.2 million: down EUR 167.3 million on an annual basis. This was largely attributable to the increase in the general government transfers abroad (by EUR 118.6 million). Receipts in the form of private current transfers increased by EUR 25.7 million on an annual basis. Transfers abroad posted a rise of EUR 17.6 million. As

<sup>8</sup> More detailed analysis of exports and imports is presented in Section 3.

a result, net transfers to the private sector increased by EUR 8.1 million annually.

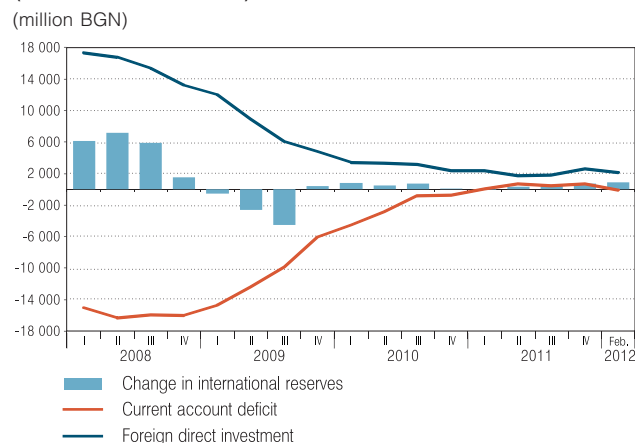
Balance of payments capital account contracted year on year by EUR 1.3 million in the January to February period. This was mainly due to decreases in capital transfers from EU funds to the amount of EUR 0.7 million compared with the same period of 2011.

In the third quarter of 2012 a surplus is expected to be recorded on the current account, ranging between 0.5 and 2.5 per cent of GDP on an annual basis. Our projections show downside risks to the balance on current transfers mainly due to the trade deficit. They are based on the assumptions of external demand dynamics and international prices of major commodities.

The sustainability of Bulgaria's external position is sustained on the basis of both the structure of capital inflows, mainly in the form of foreign direct investment, and the accumulated obliga-

tions, mainly in the form of intercompany loans. Firms continued to service their external debt liabilities, gradually decreasing their foreign obligations thanks to relatively high liquidity.

#### Dynamics of International Reserves, Foreign Direct Investment and Balance of Payments Current Account (on an Annual Basis)

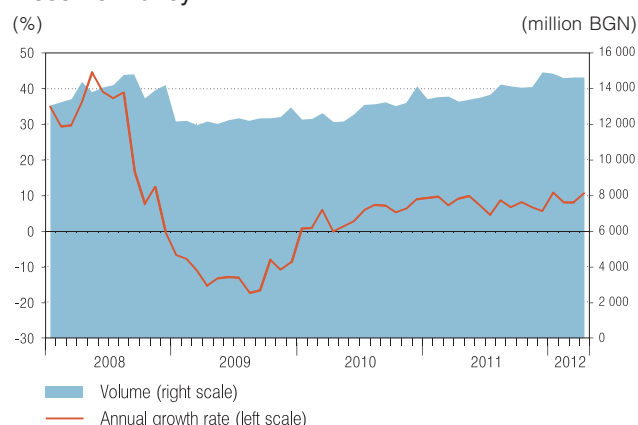


## Monetary Aggregates

In the first quarter of 2012 the Bulgarian banking system continued to attract deposits from residents due to the sustained high savings rate. Reflecting the increase in deposit base, in March bank reserves with the BNB grew by 8.0 per cent on an annual basis. At the end of March the annual growth rate of currency in circulation was 8.1 per cent, reflecting the gradual recovery of private consumption of households. The annual growth rate of currency in circulation is expected to be sustained while the growth of banks' reserves with the BNB to moderately increase over the second and third quarters of 2012. As regards the interest rates on time deposits, we expect the slight downward trend to be sustained over the projection horizon.

By the end of the first quarter of 2012 reserve money rose by 8.0 per cent on an annual basis, with banks' reserves with the BNB which increased at the same rate, contributing by 3.5 percentage points to this growth. The dynamics of banks' deposits with the BNB over the review period reflected a significant volume of attracted funds from residents, on the one hand, and a large amount of maintained excess reserves on the other hand.

#### Reserve Money

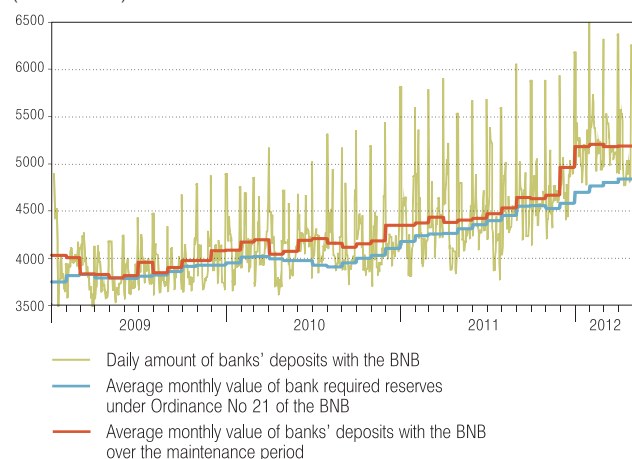




The average daily volume of funds attracted from residents<sup>9</sup> continued to grow at high rates with the increase being BGN 1749 million in the first quarter of 2012 (against BGN 465 million in the previous quarter). In the January to March 2012 period the average daily volume of funds attracted from non-residents declined by BGN 197 million. As a result of the dynamics and structure of attracted funds, the effective implicit rate of minimum required reserves maintained with the BNB continued to grow reaching 8.95 per cent<sup>10</sup>, with banks' reserves with the BNB coming to 7.87 percentage points, and the other 1.07 percentage points were formed by cash and funds on banks' settlement accounts in the TARGET2 national system component.<sup>11</sup> In the first quarter of 2012 banks increased their excess reserves and their share in total reserves maintained by banks went up to 9.1 per cent from 4.3 per cent on average in the fourth quarter of 2011.

#### Bank Deposits with the BNB

(million BGN)



Source: BNB.

Cash in circulation exhibited an upward dynamics and by the end of March the annual growth rate reached 8.1 per cent. The annual growth rates of cash in circulation are expected to be sustained over the second and third quarters of 2012. As regards banks' deposits with the BNB they are anticipated to gradually accelerate in

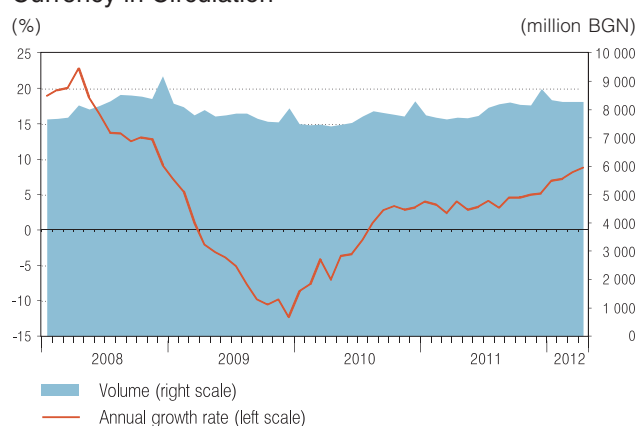
<sup>9</sup> Residents other than state and local government budgets under BNB Ordinance No 21 on the Minimum Required Reserves Maintained by Banks at the Bulgarian National Bank.

<sup>10</sup> According to Article 3, paragraph 1 of BNB Ordinance No 21 on the Minimum Required Reserves Maintained with the Bulgarian National Bank by Banks, the rate of funds attracted from residents is 10 per cent, from non-residents 5 per cent and from the state and local government budgets 0 per cent.

<sup>11</sup> See Article 4 of Ordinance No. 21 of the BNB.

the following two quarters consistent with the sustained upward trend in bank deposits. Risks to the projection stem from the uncertainty as to the speed of economic activity recovery.

#### Currency in Circulation



Source: BNB.

Fiscal policy affects the allocation of liquidity among economic sectors. In compliance with the expectations liquidity was injected from the external sector in the last quarter of 2011 attributable mostly to the positive net external debt financing (BGN 211 million), privatisation revenue received in October (BGN 232 million) and the funds on the EU structural and cohesion funds received in December from the European Commission (BGN 530 million). By the end of the year a sizeable amount of liquid funds were reallocated to non-government non-bank sector in the form of current operating expenditure, subsidies and investment. Compared with previous quarter the government deposit with the BNB posted some decline of BGN 228.9 million.

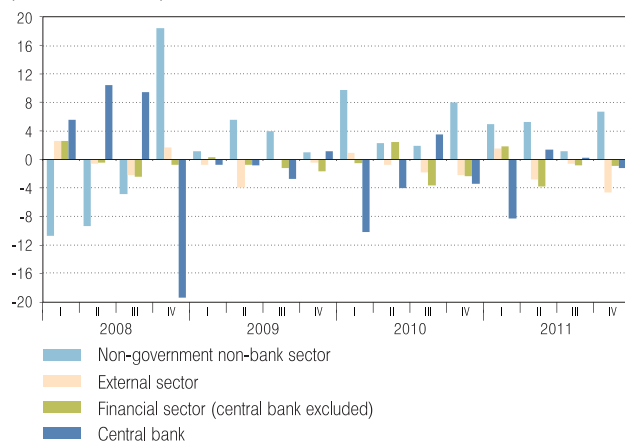
In the first quarter of 2012 net liquidity withdrawal is expected from the financial sector as a result of significant gross issue of government securities on the domestic market (BGN 536.6 million). Concurrently, reallocation of liquidity to the non-government non-bank sector is also anticipated as a result of subsidy payments in January under the EU Common Agricultural Policy (including also supplementary national payments) and acceleration of capital expenditure financed by EU structural and cohesion funds.

Liquidity is expected to be injected from the external sector to the budget due to reimbursed agricultural subsidies for direct payments in early March by the European Commission. This amount exceeds the amount of interest paid on global bonds in January and traditionally higher

contribution payments to the EU budget made in February.

### Influence of Consolidated Budget on Other Sectors' Liquidity (Quarterly)

(share of GDP, %)

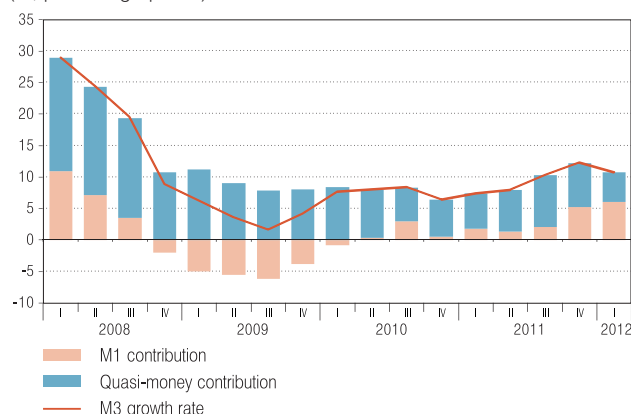


Sources: MF, BNB.

The major factor which will determine the impact of fiscal policy on the liquidity of the other sectors in the following two quarters will be the possible issue of government securities on international markets to finance the maturing global bonds in January 2013. Provided the enhanced use of EU funds is retained, the role of the budget in reallocating resources from the external to the non-government non-bank sector will increase.

### Annual M3 Growth Rate and M1 and Quasi-money Contribution (Quarterly)

(%; percentage points)



Source: BNB.

In March 2012 broad money growth decelerated slightly to 10.7 per cent on an annual basis as compared to 12.3 per cent in December. This reflects lower growth of quasi-money. At the same time, the narrow monetary aggregate M1 continued to increase, with M1 growth accelerating in March to 17.2 per cent on an annual

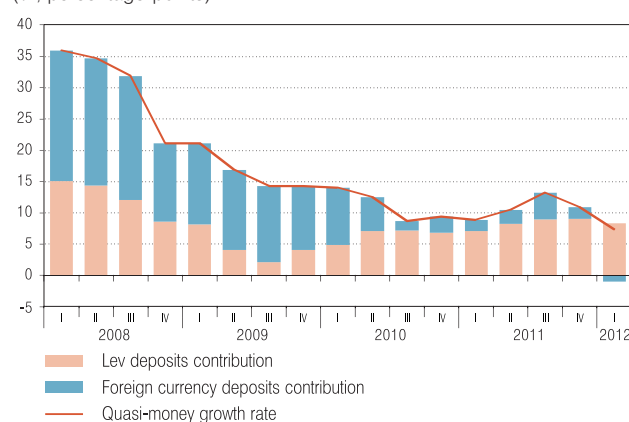
basis (against 14.4 per cent at the end of 2011). This developments were underpinned mainly by overnight deposits whose annual growth rate accelerated in March to 21.9 per cent.

Overnight deposits increased in all sectors, with those of financial and non-financial corporations contributing most to this with an annual growth rate of 8.4 and 8.2 percentage points respectively.

The growth rate of money outside banks has gradually accelerated since early 2011, rising in March by 9.2 per cent on an annual basis.

### Annual Quasi-money Growth Rate and Contribution Thereto of its Components (Quarterly)

(%; percentage points)



Source: BNB.

In March 2012 quasi-money grew by 7.3 per cent on an annual basis against 10.9 per cent at the end of 2011, with lev-denominated deposits still contributing most significantly to this by 8.3 percentage points. Over the recent several years the contribution of foreign currency deposits decreased gradually, turning to a negative value of 1 percentage point in March. Their year-on-year dynamics in March was driven largely by the lower volume of foreign currency deposits of financial corporations. This trend affected the share of lev-denominated deposits in quasi-money which continued to increase steadily to 50 per cent by end-March compared with 45.3 per cent a year earlier.

Deposits with agreed maturity of up to two years rose by 5.9 per cent on an annual basis, mainly due to household deposits (8 percentage points)<sup>12</sup> which continued to increase as a result of relatively high savings rate. By end-March

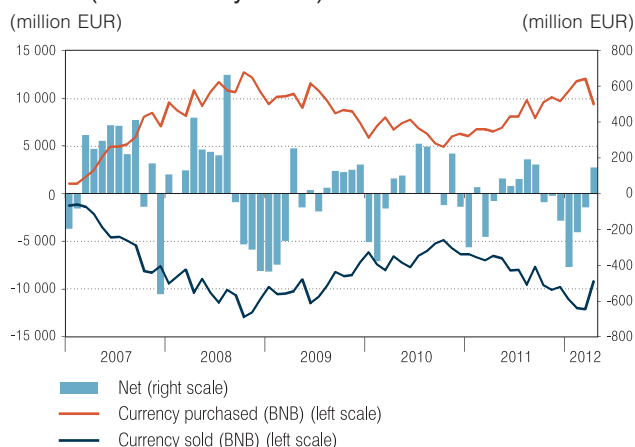
<sup>12</sup> Thus indicated data on deposits and loans of households include also deposits and loans of NPISHs in line with the classification used in monetary and interest rate statistics.

household deposits in leva increased by 25 per cent on an annual basis and those in foreign currencies by 2.6 per cent. Non-financial corporations also increased their deposits with agreed maturity of up to two years, with leva-denominated deposits rising by 8.9 per cent and foreign currency deposits by 1.2 per cent in March.

The annual growth of quasi-money and broad money is expected to gradually slow down in the second and third quarters of 2012. An acceleration is possible if the household savings rate increases during the year as a result of rising uncertainty concerning their incomes.

Banks' reserve currency (euro) transactions with the BNB serve as the main leva liquidity management tool. It is used to perform the main function of the Currency Board: purchases and sales of national currency against euro on demand.

#### Currency Sales and Purchases between the BNB and Banks (on a Monthly Basis)



Source: BNB.

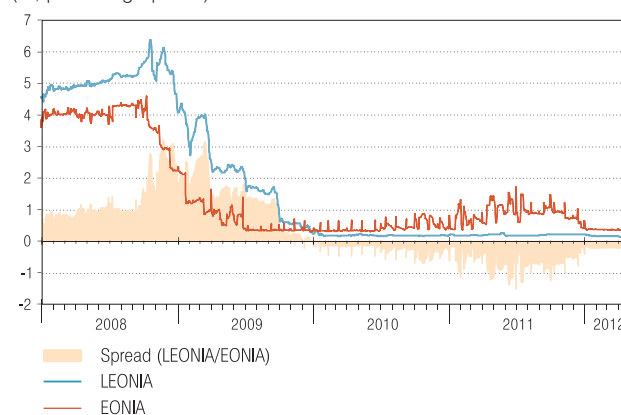
In the January to March 2012 period the average daily volume of euro purchases and sales between the banks and the BNB came to EUR 1071 million against EUR 919 million in the fourth quarter of 2011. Over the same period bank net purchases of euro amounted to EUR 698 million (compared to net purchases of EUR 207 million in the previous quarter). In April bank purchases from the BNB came to EUR 145.8 million.

As a result of the retained ample liquidity in the Bulgarian banking system, in the January to April 2012 period, interbank money market interest rates decreased compared with the end of 2011. The average interest rate on concluded transactions declined by 8 basis points to 0.17 per cent in April.

LEONIA decreased to 0.14 per cent in April: down 6 basis points on December 2011. The average value of the negative spread between LEONIA and EONIA narrowed further to 21 basis points in April compared to the negative spread of 40 basis points in December 2011. This narrowing is a result of the ECB policy to provide longer-term liquidity to European banks which led to EONIA decreases<sup>13</sup>. Since early 2012 both in the euro area and in Bulgaria interest rates were characterised by very low volatility. The factors behind this dynamics relate to the banks' ample liquidity as a result of deposit growth and prudent lending policy.

#### LEONIA/EONIA

(%; percentage points)



Source: BNB.

In the first four months of 2012 the SOFIBOR reference rate (3m), used as an indicator for short-term interest rates, fell by 94 basis points to 2.71 per cent. Over the same period the spread between the three-month SOFIBOR and the three-month EURIBOR fluctuated within a narrow range, coming to 196 basis points by April: down 25 basis points from its December level. The spread contraction resulted from the more significant decline (by 68 basis points) in SOFIBOR compared with EURIBOR over the same period. The average value between SOFIBOR and SOFIBID gives a better picture of the market interest rate level in Bulgaria. Correspondingly, it is more correctly to compare this value with EURIBOR which is the closest rate to the actual market price at which transactions are concluded<sup>14</sup>. In April the average SOFIBOR/SOFIBID reference rate in the interbank

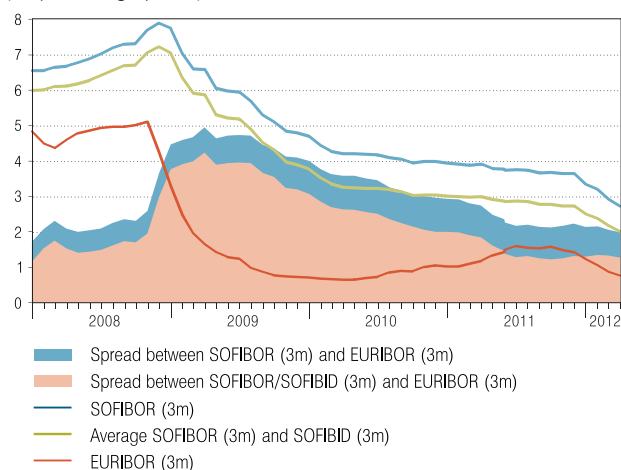
<sup>13</sup> See the Euro Area Sub-section in Section 1.

<sup>14</sup> For further methodological notes, see the box Differences between the Methodology for Calculating Money Market Indices in the Euro Area and in the New EU Member States, Economic Review, 2/2010 p. 27.

market in Bulgaria over the three-month horizon declined by 73 basis points on December to reach 1.99 per cent, and the spread between the average quotation and EURIBOR (3m) decreased by 5 basis points to 125 basis points compared with December 2011.

#### SOFIBOR, EURIBOR and Average SOFIBOR/SOFIBID Index (Three-month Horizon)

(%; percentage points)

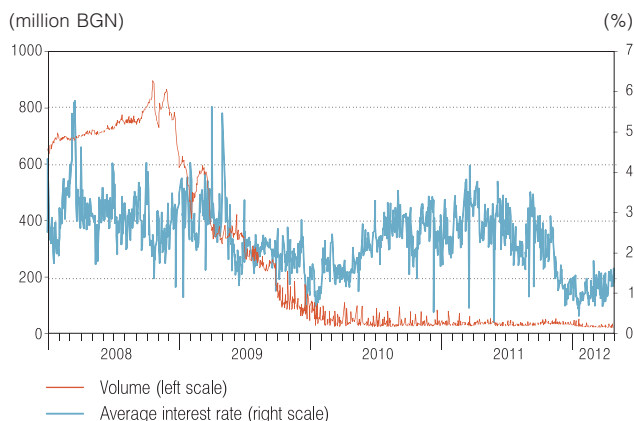


Source: BNB.

For the January to March 2012 period the average daily volumes traded in the interbank money market amounted to BGN 145 million, a decrease of 40 per cent on the previous quarter. Interbank trading was affected by bank high liquidity and heightened uncertainty in international financial markets<sup>15</sup> at the end of 2011 and the first quarter of 2012.

#### Trade Volume and Interbank Money Market Interest Rates

(million BGN)



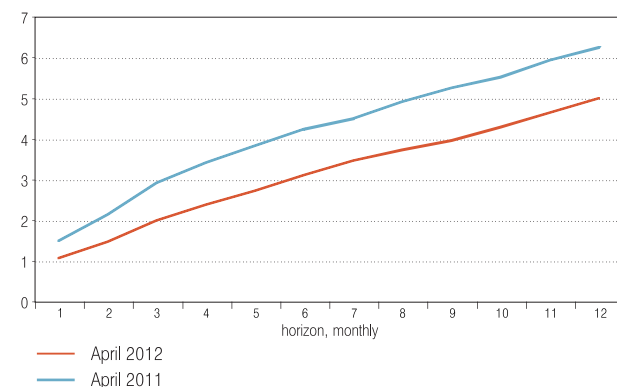
Source: BNB.

The downward trend in the long end of the money market yield curve continued in the review period, with analogous trends observed in the

short end. In April a year-on-year fall of 125 basis points was reported in the 12-month horizon, while in the one-month horizon, it was 43 basis points.

#### Interbank Money Market Yield Curve (Based on Average SOFIBOR/SOFIBID Quotations)

(%)

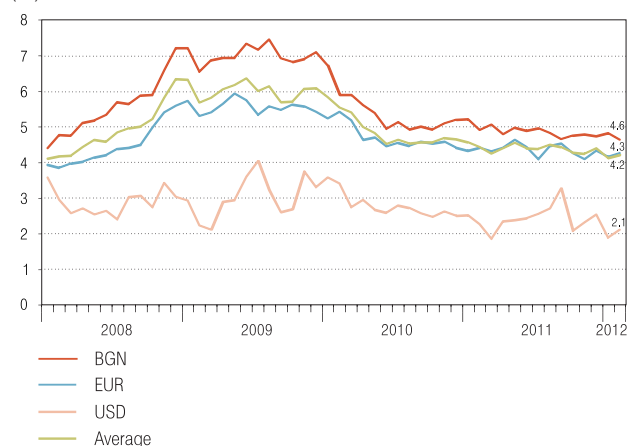


Source: BNB.

In the first quarter of 2012 the average weighted interest rate on new<sup>16</sup> time deposits fell by 16 basis points on the previous quarter to 4.2 per cent.

#### Interest Rates on New Time Deposits

(%)



Note: The average interest rate is calculated using the interest rates in all sectors, maturities and currencies weighted at their respective new deposit volumes.

Source: BNB (interest rate statistics: interest rates and volumes of new business on time deposits of the non-financial corporate and household sectors).

The breakdown by currency shows that US dollar-denominated deposits declined by 33 percentage points to 2.0 per cent, while euro-denominated deposits rose by 7 basis points to 4.3 per cent respectively. Interest rates on lev-denominated deposits slightly decreased to 4.6 per cent. In March the average weighted

<sup>15</sup> See the Euro Area Sub-section in Section 1.

<sup>16</sup> The terms "newly agreed", "new loans and deposits" and "new" refer to the "new business" statistical category.

deposit rate declined by 12 basis points on an annual basis.

### Distribution of Interest Rates on New Household Time Lev Deposits

(frequency – number of banks)



Source: BNB.

In March the breakdown of interest rates on household time lev deposits by bank showed

that the number of banks offering rates in the up to 4 per cent, from 4 to five per cent and over 7 per cent bands increased and those offering rates within the 5 to 6 per cent band decreased. The average interest rate level in March decreased by 37 basis points on December to 5.11 per cent, while the dispersion coefficient rose by 55 basis points to 1.68 percentage points.

Interest rates on time deposits are expected to continue slightly declining in the second and third quarters of 2012. These expectations are underpinned by the high banking system liquidity<sup>17</sup> amid moderate lending activity of banks and persistent high savings rate of households and corporations.

<sup>17</sup> The liquid assets to liabilities ratio retained its high levels reaching 25.75 per cent in March.

## Credit Aggregates

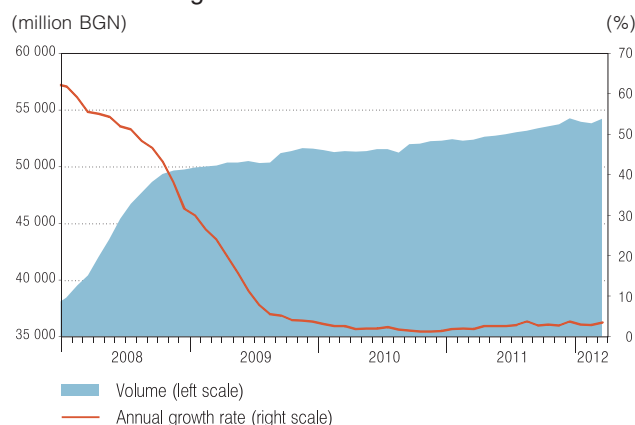
The worsening economic situation at the end of 2011 and in early 2012 and the low investment activity of corporations led to lower demand for loans. The subdued borrowing demand by households continued to be driven by the uncertainty about their future income and the intensified negative trends in the labour market. Bank liquidity remained high as a result of the large deposit inflow from residents and due to the low demand for domestic loans banks continued to repay their foreign liabilities. In the first quarter of 2012 interest rates on new consumer and corporate loans increased on average, while those on housing loans remained unchanged. Lending interest rates are expected to slightly decline in the second and third quarters of 2012, reflecting the possible fall in the cost of bank funds.

In the first quarter of 2012 claims on the non-government sector fell by BGN 69.6 million (as compared to an insignificant increase of BGN 54.1 million over the same period in 2011) with their annual growth rate slowing to 3.5 per cent in March (compared to 3.8 per cent at the end of 2011).

The worsening economic situation at the end of 2011 and in early 2012 and the low investment activity of corporations led to lower demand for loans by non-financial corporations. By end-March 2012 banks' claims on households decreased by BGN 190.8 million year-on-year: overdraft and consumer loans declined by BGN 169.9 million and BGN 94.8 million respectively, while housing and other loans grew by BGN 50.0 million and BGN 26.3 million respectively. The subdued demand for borrowing by households continued to be driven by the un-

certainty surrounding their future income and the intensified negative trends in the labour market.

### Claims on Non-government Sector



Source: BNB (monetary statistics: monetary survey).

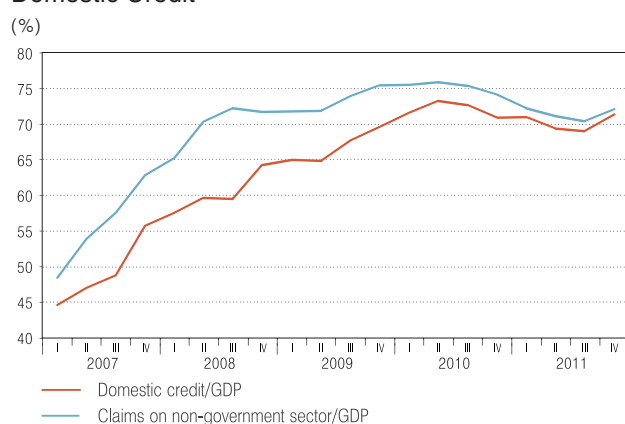
In the first quarter of 2012 net sales of bank loans reached BGN 67.7 million (most of the sales directed to residents).



According to the summarised results of the BNB quarterly lending activity survey, in the first quarter of 2012 growth of demand for loans by corporations continued to slowdown, while demand by households decreased, especially for housing loans. Demand for short-term loans by corporations to cover their working capital requirements continued to rise, though more moderately, while demand for long-term loans needed for investments declined on the previous quarter. Over the review period banks' standards for loans to corporations were tightened, albeit less than in the previous quarter, while those for household consumer and housing loans were eased. As key factors for the tightening the banks outlined the business climate in the sectors occupying large shares in bank credit portfolios, the state of the macroeconomic environment, collateral-related risk and credit risk. Banks express expectations of increasing demand for loans in the second quarter of 2012 both by corporations and households. Expectations of credit standards over the second quarter of 2012 show further easing with respect to lending to households and retention for loans to corporations.

In the fourth quarter of 2011 the claims on the non-government sector to GDP ratio was 72.1 per cent<sup>18</sup>, down 2.1 percentage points on the end of 2010. This ratio rose by 1.7 percentage points from the previous quarter, reflecting mainly the 0.7 per cent decrease in nominal GDP over the fourth quarter compared with the third one on an annual basis.

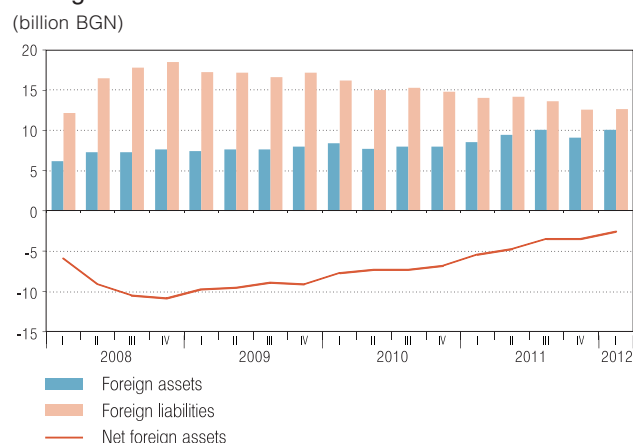
### Domestic Credit



Source: BNB.

<sup>18</sup> The ratio is calculated using the annual GDP.

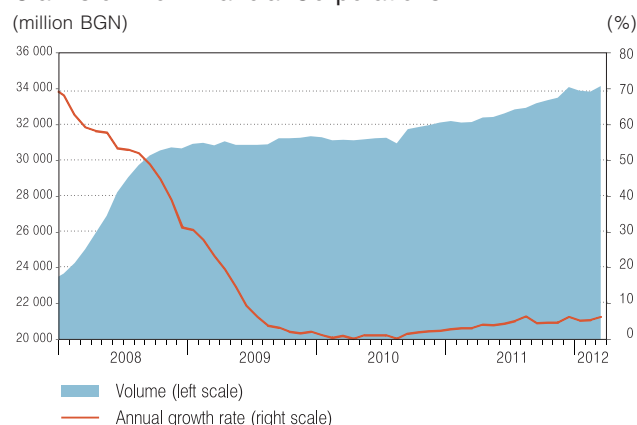
### Foreign Assets and Liabilities of Banks



Source: BNB (monetary statistics: analytical reporting of other MFIs).

Bank liquidity remained high in the first quarter of the year, reflecting the continued inflow of funds attracted from residents (up BGN 1048.0 million).<sup>19</sup> The larger volume of attracted funds was enough to finance the moderate increase in the volume of new loans and to increase banks' foreign assets. Over the review period bank funds attracted from non-residents increased by BGN 119.4 million and their foreign assets grew by BGN 1037.1 million. As a result, banks' net foreign liabilities decreased by BGN 917.7 million. In the second and third quarters of 2012 banks are expected to continue reducing their net foreign liabilities. The increase in the residents' deposit base is projected to provide enough resources to banks to increase the volume of domestic credit.

### Claims on Non-financial Corporations



Source: BNB (monetary statistics: monetary survey).

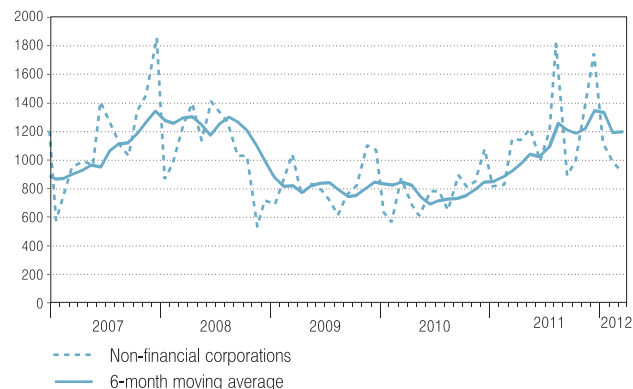
The annual growth of claims on non-financial corporations was sustained, their volume increasing by 6.3 per cent by end-March (6.2 per

<sup>19</sup> BNB monetary statistics data. See Section 2, Monetary Aggregates Sub-section.

cent at the end of 2011). Demand for loans was influenced by the decreased assessment of current economic activity in the first quarter of the year and the uncertainty about the economic recovery.

### New Loans to Non-financial Corporations (Monthly Volumes)

(million BGN)



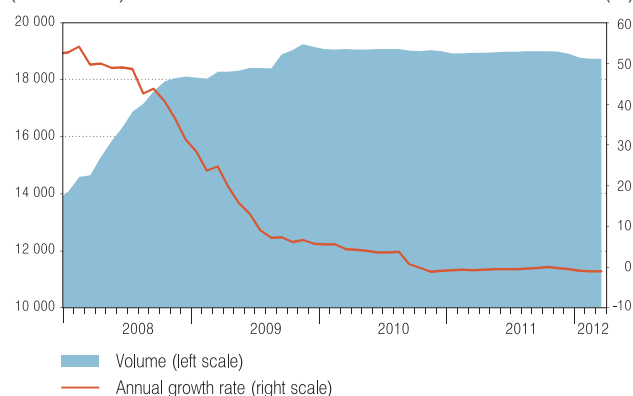
Source: BNB (interest rate statistics: interest rates and volumes of new business: breakdown of loans to the non-financial corporate and household sectors by original maturity).

In the first quarter of 2012 new loans to non-financial corporation amounted to BGN 3011.4 million against BGN 4183.9 million in the last quarter of 2011<sup>20</sup>. The high monthly volatility of new loans to corporations was retained, though the six-month moving average of these volumes shows a recovery to the pre-crisis levels amid higher lending standards.

Over the review period claims on non-financial corporations grew by BGN 58.7 million (growth of BGN 923.1 million in the fourth quarter of 2011).

### Claims on Households

(million BGN)



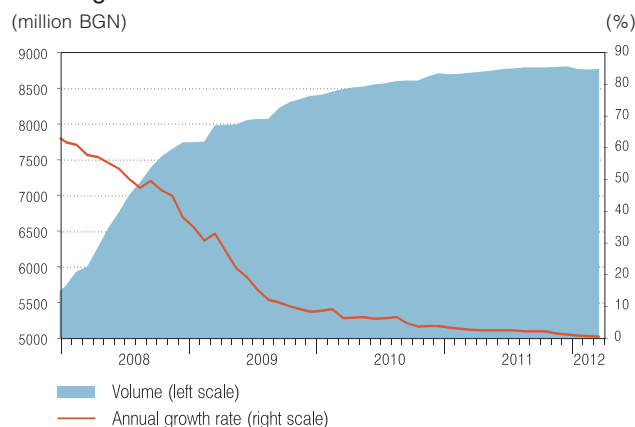
Source: BNB (monetary statistics: monetary survey).

<sup>20</sup> Part of these volumes are renegotiated loans which signals that the banking system has reacted adequately to the difficulties experienced by corporations and households.

The downward trend in lending to households continued in the first quarter of 2012. At the end of March the total amount of banks' claims on households fell by 1.0 per cent on an annual basis. The volatile recovery of private consumption, household uncertainty regarding their future income and the relatively high level of unemployment continued to be the main factors dampening demand for loans on behalf of households. Households remained cautious to new liabilities and preferred to repay their old obligations and to save.

### Housing Loans

(million BGN)

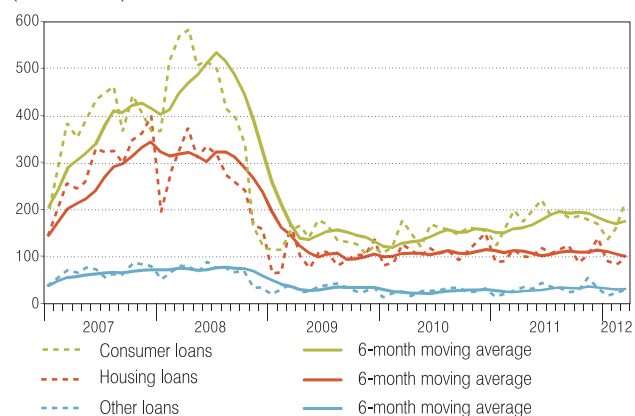


Source: BNB (monetary statistics: loans *vis-à-vis* non-financial corporations, households and NPISHs).

In the January to March 2012 period claims on households declined by BGN 165.3 million compared to a fall of BGN 83.0 million in the last quarter of 2011. Housing loans and other loans increased by 0.6 per cent and 2.9 per cent on an annual basis, while overdrafts and consumer loans decreased by 9.5 per cent and 1.3 per cent respectively.

### New Loans to Households (Monthly Volumes)

(million BGN)

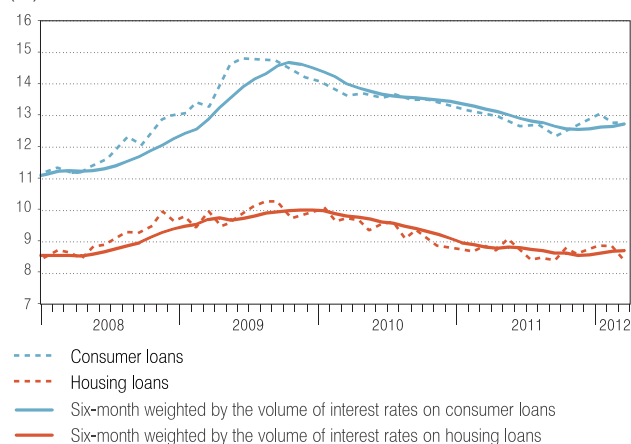


Source: BNB (interest rate statistics: interest rates and volumes of new business: breakdown of loans to the non-financial corporate and household sectors by original maturity).

The statistics of new loans still reports higher agreed volumes of consumer loans compared to housing loans. In the first quarter of 2012 new consumer loans came to BGN 511.4 million: up 7.5 per cent on the corresponding period of the prior year. New housing loans came to BGN 268.4 million (down 7.9 per cent on an annual basis). Over the review period new loans to households were BGN 846.1 million.

#### The Annual Percentage Rate of Charges on New Household Loans (Weighted Average by Currency)

(%)



Source: BNB (interest rate statistics: annual percentage rate of charges on new business: breakdown of loans to the household sector by original maturity).

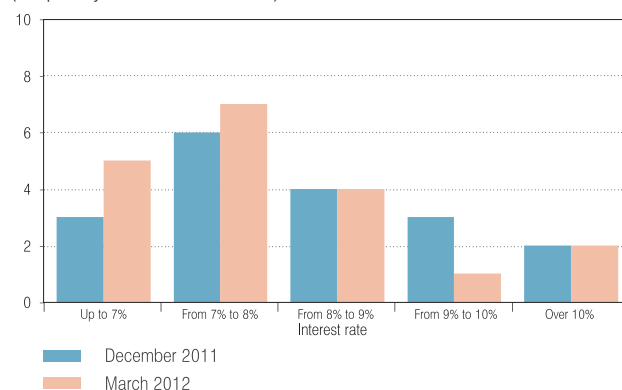
In the first quarter of 2012 interest rates on new consumer loans increased on the last quarter of 2011, while those on housing loans were retained, unlike interest rates on other loans which posted declines. These developments led to a 10 basis point increase in the average weighted interest rate on household loans to 10.2 per cent.

Over the review period the average annual percentage rate of charges (APRC) on new consumer loan amounted to 12.82 per cent (against 12.62 per cent in the fourth quarter of the previous year) and the average interest rate on these loans rose by 14 basis points on the previous quarter to 11.32 per cent.<sup>21</sup>

<sup>21</sup> The annual percentage rate of charges is the total cost of credit to the credit borrower expressed as an annual per cent of the total amount of extended credit (Directive 87/102/EEC on Consumer Credit amended by Directive 90/88/EEC and Directive 98/7/EC).

#### Distribution of Interest Rates on New Housing Loans in Euro

(frequency – number of banks)



Source: BNB.

The average annual percentage rate of charges on new housing loans fell by 3 basis points on the fourth quarter of 2011 to 8.66 per cent on average for the January to March 2012 period. The average interest rate on housing loans over the same period remained unchanged at 7.95 per cent.

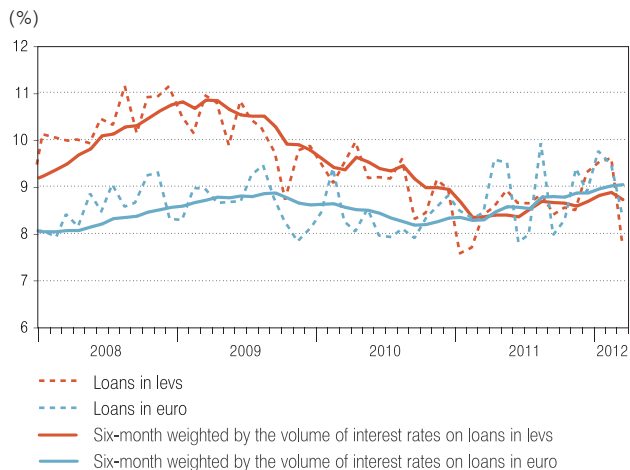
As regards the distribution of interest rates on housing loans in euro<sup>22</sup> by bank, in March 2012 the number of banks offering rates up to 7 per cent and from 7 to 8 per cent increased at the expense of those offering rates between 9 and 10 per cent. Over the same period the average interest rate level declined by 37 basis points and the dispersion coefficient fell by 5 basis points to 1.50.

In the first quarter of 2012 the average interest rate on new bank loans to non-financial corporations reached 9.18 per cent: up 40 basis points on the fourth quarter of 2011. Renegotiation of loans to corporations and households experiencing difficulties in their servicing had affected the dynamics of interest rates on new bank loans.

Interest rates on lev-denominated loans marked a decrease of 10 basis points, while those on loans in euro and US dollars reported increases of 37 basis points and 180 basis points respectively.

<sup>22</sup> Over the last three years housing loans in euro comprised the largest share in new housing loans (around 75.6 per cent).

### Interest Rates on New Long-term Loans in Levs and Euro to Non-financial Corporations



Sources: ECB, BNB (interest rate statistics: interest rates and volumes of new business on loans to non-financial corporations and household sectors by original maturity).

Lending interest rates are expected to slightly decline in the second and third quarters of 2012. They are primarily affected by the cost of attracted financial resources. The bulk of bank attracted funds (around 82 per cent<sup>23</sup>) are deposits of households and of institutions other than credit institutions. In the second and third quarters of 2012 the trend to a moderate decline in deposit rates is expected to continue, thus contributing to the decrease in lending interest rates. The cost of funds attracted from credit institutions (comprising around 14.8 per cent of bank resources) will be pushed down by the considerable liquidity provided by the ECB to euro area banks and will depend (upwards) on the instability and uncertainty in international financial markets and risk premium in Bulgaria.

<sup>23</sup> According to the Banking Supervision Department data, average for the January–March 2012 period.

# 3. Economic Activity

---

In 2011 economic growth increased to 1.7 per cent, from 0.4 per cent in 2010 mainly due to exports, while domestic demand contracted in real terms reflecting primarily the continuous decline in fixed assets investments. In the second half of 2011 the real growth rate started to moderate reaching 0.2 per cent and 0.3 per cent in the third and fourth quarters respectively. Weak domestic demand dampened growth, while exports continued to increase until the end of 2011.

In the first quarter of 2012 the business environment in Bulgaria worsened as a result of both the decline in euro area economic growth in the fourth quarter of 2011 and the harsh winter conditions in Bulgaria in early 2012. More sizeable negative effects of external environment developments on exports dynamics are anticipated to occur in the first quarter of 2012, but their impact is likely to be waning in the second one, provided that the sovereign debt crisis in the euro area does not escalate. Assuming that external environment stabilises, domestic demand is expected to start to recover slowly in the second and third quarters of 2012. Quarter-on-quarter real GDP growth is expected to hover around zero in the second quarter of 2012, while in the third one it is likely to increase.

In 2011 real GDP continued rising, posting a 1.7 per cent growth rate. Goods and services exports remained the major factor behind growth, increasing by another 12.8 per cent in 2011 following the 14.7 per cent rise in 2010. Bulgaria continued to expand its market share in international markets.

On a quarterly basis, gradual slowdown in the export growth was observed amid the worsening international environment, especially in the euro area<sup>1</sup>. In the fourth quarter of 2011 exports rose 2.5 per cent quarter-on-quarter (2.8 per cent in the third quarter). In the second half of the year real GDP growth also slowed down compared to the first half. In the third and fourth quarters of 2011 real GDP increased by 0.2 and 0.3 per cent respectively on a quarterly basis.

In 2011 real imports growth was 8.5 per cent, *i.e.* lower than the exports rate. This contributed to retaining a high positive contribution to net exports growth (2.3 percentage points). In the second half-year imports growth also moderated, following the overall economic growth dynamics.

---

<sup>1</sup> The quarter-on-quarter analysis in this section employs seasonally adjusted data, unless otherwise indicated. For indicators on which the NSI or Eurostat do not officially publish seasonally adjusted data, adjustment was made *via* the TRAMO SEATS programme by using automated set up for diagnostics and optimisation of adjustment parameters.

In 2011 household consumption contracted in real terms by 0.6 per cent after the relative stabilisation in consumer demand over 2010. The unfavourable international environment had an adverse effect on expectations of economic recovery and especially of improving labour market conditions. Already in the beginning of 2011 consumers' assessments of the general economic situation and households' financial performance in the next 12 months declined<sup>2</sup>, forming expectations of growing unemployment since mid-2011. These factors limited consumer expenditure of households over the year and maintained the relatively high savings level attained.

Government consumption grew by 0.5 per cent in real terms over 2011, thus contributing 0.1 percentage points to GDP growth.

Fixed asset investment continued to decline in real terms, appearing again as a major factor for the weak domestic demand. The increased instability and uncertainty in international financial markets over the year along with the low FDI inflow contributed to the continuing decline in fixed asset investment (9.7 per cent in 2011 after the 18.3 per cent fall in 2010).

---

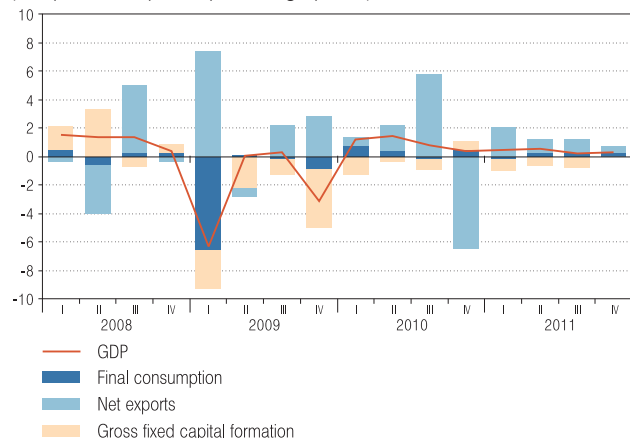
<sup>2</sup> See Consumer Survey (January 2011), NSI.



Recovery of inventories in economy as a result of the economic activity revival had a significant contribution (1.8 percentage points) to GDP growth.

#### Contribution to GDP Growth by Component of Final Use (Seasonally Adjusted Data)

(%, quarter-on-quarter percentage points)



Note: Non-additive data due to direct chain-linked volumes and seasonal adjustment of GDP and its components.

Sources: NSI, BNB.

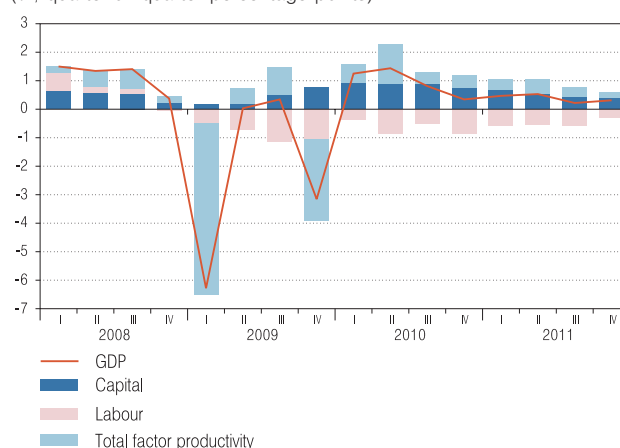
Based on the growth breakdown by production factors, the contribution of the capital used<sup>3</sup> continued to be positive in 2011, though retaining its downward trend. The significant fall in the physical volume of fixed asset investment for the third consecutive year limited the capital contribution to growth despite the increased production capacity utilisation over the year. The contribution of the labour factor to growth<sup>4</sup> (negative over the past three years) declined from -0.6 percentage points on average in the first three quarters of 2011 to -0.3 percentage points in the last quarter of the year. This was due to the quarter-on-quarter growth of employed in the fourth quarter against a slight decrease in the average hours worked *per* person.

<sup>3</sup> Calculations are based on the capital estimated through seasonally adjusted accumulated capital corrected for the capacity utilisation rate in manufacturing according to the Industry Trend Survey. The HP bandpass filter (parameter  $\lambda = 10$ ) is applied to the capacity utilisation indicator.

<sup>4</sup> The contribution of the labour factor is measured by hours worked *per* person in economy.

#### Contribution of Changes in Production Factors to GDP Growth

(%, quarter-on-quarter percentage points)



Sources: NSI, BNB.

Gross value added in economy continued to rise in 2011, posting 1.8 per cent real growth. The export-oriented industrial sector (9.1 per cent growth) had the major contribution to this. Growth moderation in this sector over the second half-year led to lower growth in overall value added in economy over the review period. Weak domestic demand had a negative effect on services. After growing by 4.4 per cent in 2010, value added in the services sector fell by 0.1 per cent in 2011. The trade, transport, hotels and restaurants and culture, sports and entertainment sectors posted the most significant decline. An increase was recorded in value added in information services and professional activities, and scientific research, administrative and ancillary activities which were less affected by the crisis. In addition to these sectors, trade, transport, hotel and restaurant services, real estate operations had a positive contribution to the growth in services. Thus, in the last quarter of 2011 value added in the services sector increased by 1.4 per cent quarter-on-quarter.

## Value Added Growth and Contribution by Sector

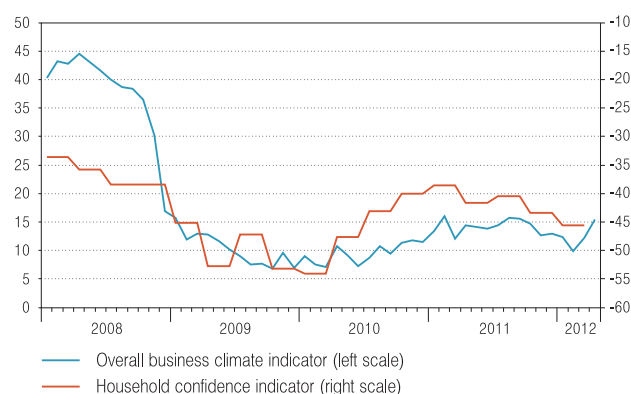
(%, quarter-on-quarter percentage points)



Note: Non-additive data due to direct chain-linked volumes and seasonal adjustment of GDP and its components.

Sources: NSI, BNB.

## Business Climate and Household Confidence Indicator



Sources: NSI, BNB.

The economic indicators as of March 2012 showed a decline in assessments of the current economic activity *vis-à-vis* the last quarter of 2011. This was due to both the worsened international environment and hard winter conditions in Bulgaria over the first quarter of 2012 which severely hampered economy, especially construction. Despite the pessimism about the business situation in the first quarter of 2012, expectations of the future business situation improved in all sectors, especially in construction and services. Thus, in April the current situation assessment improved and the business climate indicator increased.

Our expectations are that the unfavourable external environment and sovereign debt crisis will further contribute to the weak economic activity in Bulgaria until the end of the first half of 2012.

Reflecting the weak external demand, exports is projected to report a negative quarter-on-quarter rate of growth, with the expected gradual recovery in the euro area contributing to the slow-down of the fall in exports in the second quarter and to growth in the third quarter.

After the unfavourable first quarter of 2012, domestic demand is expected to begin recovering at slow rates in the second and third quarters. If the positive dynamics of incomes is sustained, consumer demand will be affected mainly by household expectations of the future economic environment, their assessments of labour market trends and willingness to increase consumption by reducing savings. Firms are expected to continue maintaining their competitiveness, while remaining conservative in their decisions about the number of employees. Employment policy and labour cost optimisation will have an adverse effect on the speed of labour market recovery, and consequently on consumer expenditure.

Investment demand dynamics will continue to depend on the developments in international financial markets and foreign direct investment inflow. The downward trend in fixed asset investment may be reversed in the second and third quarters of the year, provided that the relatively good current financial state of corporations is sustained and the production capacity utilisation rate continues to increase. However, in 2012 gross fixed capital formation is expected to remain lower than in 2011.

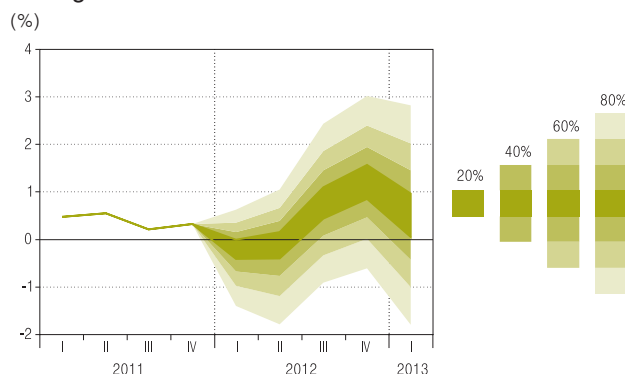
Our expectations of the real GDP dynamics in the coming quarters and associated uncertainty are presented in the fan chart on the quarter-on-quarter GDP growth rate<sup>5</sup>. Our projections show that after the quarter-on-quarter growth rate decline in the first quarter of 2012, real GDP rate will hover around zero from -0.8 per cent to 0.4 per cent<sup>6</sup> in the second quarter. Though this projection is based on relatively conservative expectations of the euro area growth effect on exports in Bulgaria, the floor of the range, or a lower value may be reached in case of a poten-

<sup>5</sup> For further details, see the box entitled *Measurement and Presentation of Uncertainty in Forecasting Economic indicators*.

<sup>6</sup> Thus presented ranges of the expected growth rate of real GDP correspond to 40 per cent probability according to our expert specification of the probability distribution for the relevant quarter.

tial higher than expected escalation of the euro area public debt crisis or weaker recovery of domestic demand due to cautious behaviour of both firms regarding investments and households regarding consumer spending.

#### Fan Chart of the Expected Quarter-on-quarter Rate of Change of GDP



Note: The fan chart shows the expert views on the forecasters on the uncertainty around the projected value based on probability distribution. The middle band of the chart, depicted in the darkest colour, includes the central projection. Probability distribution assigns 20 per cent probability for the actual value to fall in this band in each of the quarters. If neighbouring bands (in the same brighter colour) are added to the middle band, there would be 40 per cent coverage of the probability mass. Thus, by adding each same colour couple of bands, the probability for the value to fall there would be increased by 20 percentage points to reach 80 per cent. The probability for the value to remain outside the coloured part of the chart is 20 per cent based on the distribution chosen.

Sources: NSI, BNB.

Retaining its competitive positions, the Bulgarian exports have a potential to expand their market share throughout various regions (euro area, third countries), thus offsetting the impact of the

unfavourable external environment and contributing to the higher growth rate of GDP close to the upper limit of the projection in the second quarter of the year. Nevertheless, the assessment of risks to the projection is skewed toward to lower growth over the second quarter.

A gradual recovery of growth is expected to start by mid-year at rates between 0.1 and 1.5 per cent<sup>7</sup> in the third quarter. Faster recovery of domestic demand is possible if the utilisation ratio of EU funds is significantly increased which will result in higher investment activity. More favourable developments of the external environment are also possible and will contribute to the growth of exports at rates higher than expected. In such a case, the growth rate of real GDP may approach the upper limit of the projection for the third quarter. However, risks to the projection are again skewed toward lower rates of growth. Consumer demand may be a factor pushing down economic growth over this period provided the expected labour market improvement does not materialise or occurs at lower rates. If, concurrently, investment activity and exports do not develop as expected, growth may fall below 0.1 per cent. In such a case, net exports will have a major positive contribution to it, albeit insufficient to compensate the negative impact of domestic demand.

<sup>7</sup> See footnote 6 in this section.

#### GDP Growth by Component of Final Use

(%, real growth on the previous quarter; seasonally adjusted data)

	2009				2010				2011			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
Consumption incl.	-7.7	0.1	-0.2	-1.1	1.0	0.5	-0.2	0.6	-0.2	0.2	0.3	0.2
Household consumption	-3.3	-1.6	-1.2	-1.3	1.4	0.7	-0.7	0.4	-0.3	0.3	0.7	0.6
Final government consumption expenditure	-14.2	1.8	2.9	-2.8	2.9	1.4	1.9	0.2	1.6	1.2	-1.8	0.3
Collective consumption	-1.1	0.0	-1.4	-15.6	16.6	-1.6	-0.5	-2.2	0.7	-0.7	-1.1	-0.1
Gross fixed capital formation	-8.2	-6.9	-3.5	-14.1	-4.7	-1.4	-2.9	2.4	-3.7	-2.8	-3.5	-0.1
Exports of goods and non-factor services	-6.7	-2.7	2.0	6.6	-0.7	7.2	10.4	-4.1	7.0	-0.1	2.8	2.5
Imports of goods and non-factor services	-15.1	-1.3	-1.8	0.8	-1.4	3.4	0.3	6.0	3.3	-1.5	1.1	1.5
<b>Real GDP growth</b>	<b>-6.3</b>	<b>0.0</b>	<b>0.3</b>	<b>-3.1</b>	<b>1.2</b>	<b>1.5</b>	<b>0.8</b>	<b>0.4</b>	<b>0.5</b>	<b>0.5</b>	<b>0.2</b>	<b>0.3</b>

Sources: NSI, BNB.

## Gross Value Added Growth

(%, real growth on the previous quarter; seasonally adjusted data)

	2009				2010				2011			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
Agriculture and forestry, hunting and fishing	-6.0	-3.2	1.0	0.2	-9.2	1.2	-0.9	-2.4	1.3	-1.2	0.5	0.3
Mining and quarrying, production and distribution of electricity, gas and water	-4.2	-3.2	13.8	-13.5	-0.2	4.2	3.9	-0.4	5.7	0.9	-1.3	0.9
Construction	-0.6	-1.8	-8.4	-8.1	-9.1	0.7	-9.3	26.1	-18.4	1.8	5.8	4.0
Trade, cars and motorcycles repair; transport, storage and mail services; hotels and restaurants	7.2	-26.8	9.5	9.9	9.3	-8.0	14.1	-2.5	-5.2	5.4	-4.2	1.4
Creation and dissemination of information and author products; communications	-0.8	1.9	-2.7	-0.1	1.7	1.7	-0.5	-0.8	-0.5	0.5	3.8	2.8
Finance and insurance activity	7.2	-3.2	-0.8	4.9	2.0	-6.8	5.1	-2.0	-2.6	3.6	2.4	-3.2
Operations in real estate	4.4	-2.2	-6.9	0.2	7.4	-0.1	-0.6	0.1	-4.4	5.1	2.0	3.8
Professional activities and scientific research; administrative and ancillary activities	-6.0	29.0	0.3	-6.1	-7.3	5.6	0.3	2.2	9.4	-9.1	3.4	11.0
General government; education; healthcare and social services	-2.1	4.0	1.0	0.3	0.0	-1.6	-2.5	-0.8	0.2	0.0	0.6	-0.5
Culture, sport and entertainment; other activity; activities of households as employers; non-identified activities of households producing goods and services for own use; activities of extraterritorial organisations and bodies	-5.2	18.3	-9.5	6.6	-4.2	-2.3	-2.8	-0.4	-3.7	-2.5	2.3	-1.5
<b>Gross value added, total for the economy</b>	<b>-4.9</b>	<b>0.0</b>	<b>0.2</b>	<b>-0.7</b>	<b>0.1</b>	<b>0.3</b>	<b>0.8</b>	<b>0.9</b>	<b>0.2</b>	<b>0.8</b>	<b>0.0</b>	<b>0.2</b>

Sources: NSI, BNB.

## Household Behaviour

**In the fourth quarter of 2011 household consumption remained weak: a trend observed over the whole year. In the second and third quarters of 2012 the rates of recovery in consumer demand are expected to remain close to the levels observed in the second half of 2011 due to the continuous decline in the number of employed, the pessimism of households about the development of the general economic situation and their financial situation over the coming 12 months, and the growing unemployment expectations.**

In the fourth quarter of 2011 household consumption remained weak (0.6 per cent quarter-on-quarter growth): a trend observed over the whole year. The downward trend in employment continued throughout the whole 2011, with a slight increase observed in the fourth quarter. Household pessimism about the general economic situation and the labour market situation had a negative effect on households' financial situation expectations for the following 12 months. Household pessimistic assessments were supported by the corporations' negative employment expectations and anticipated slow recovery of economic activity which will further exert a negative pressure on employment. Hence, it may be expected that the speed of consumption recovery in the first half of 2012 will remain at the levels observed in the second half of 2011.

In 2011 catering services expenses (based on national accounts data) had the major positive contribution to consumption dynamics, though it was positive only in the first half of the year. In the second half these expenses posted again a decline. Non-food expenditure also had a positive contribution to consumption, albeit growing moderately over the year. Expenses on non-production services, which began to slightly increase in the remainder of the year after a more significant decline in the first quarter, had a major negative contribution<sup>8</sup>. In most of 2011 (from the second to fourth quarter of 2011) and in the first quarter of 2012 retail trade volumes continued recovering in pharmaceutical and medical goods, and cosmetics. No sustainable recovery has occurred yet in the other groups.

<sup>8</sup> Purchased non-production services include services other than public catering, water supply, heat energy and electricity, transport and communications.

Employment dynamics reflected on household propensity to consume. In most of 2011 employment continued to decrease on a quarterly basis. The slight quarter-on-quarter increase of 0.2 per cent<sup>9</sup> in the fourth quarter may not be interpreted as a change in the trend and is expected to be unstable. Firms' employment expectations formed in early 2012 continued to be pessimistic, affected by uncertainty around the international situation and the speed of economic activity recovery. The increased employment in the fourth quarter of 2011 reflects mainly the rise in the number of self-employed (mostly in agriculture and in some services sub-sectors), while the number of employed quarter-on-quarter slightly declined despite the positive dynamics in some services sub-sectors. According to the Labour Force Survey, in the fourth quarter of 2011 unemployment of individuals at and above the age of 15 slightly rose to 11.4 per cent compared with the third quarter, based on both seasonally adjusted and non-seasonally adjusted data.<sup>10</sup> Employment Agency data indicate a continuing increase in the rate of unemployment in early 2012. In March 2012 it increased to 10.8 per cent according to seasonally adjusted data (11.5 per cent based on non-seasonally adjusted data for this month) which coupled with still negative firms' employment expectations also raised doubts about the stability of employment recovery observed in the fourth quarter of 2011.<sup>11</sup>

According to the Labour Force Survey, in most of 2011 long-term unemployed (over two years) contributed most significantly to the increase in unemployment. Over the fourth quarter unemployment in short-term unemployed (up to one year) began to rise, reflecting mostly the close of temporary and seasonal work after the end of the summer season which was more active in 2011. As a result, the share of long-term unemployed in total unemployment slightly decreased. Unlike the third quarter, most of the persons dismissed in the fourth quarter were younger unemployed (from 25 to 34). This dynamics has been observed since 2009.

<sup>9</sup> According to the employment data from national accounts.

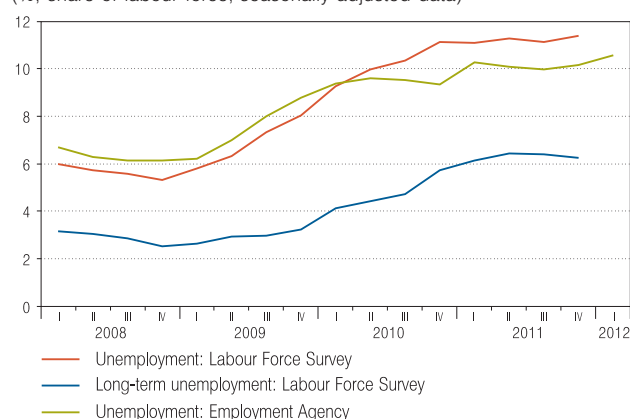
<sup>10</sup> Based on preliminary results from the Labour Force Survey conducted by the NSI, the unemployment rate in the first quarter of 2012 reached 12.9 per cent.

<sup>11</sup> According to the employment data from national accounts.

Employment dynamics in some sectors affected household behaviour in terms of labour supply. The increasing number of discouraged people indicates potential problems in labour supply. In the fourth quarter of 2011 the number of discouraged remained at comparatively high levels and the economic activity rate continued to decline to 65.9 per cent (seasonally adjusted data). The recovery of active supply of employment will depend on the labour demand growth. However, the latter is expected to remain weak, based on the pessimistic expectations of firms regarding the number of their personnel.

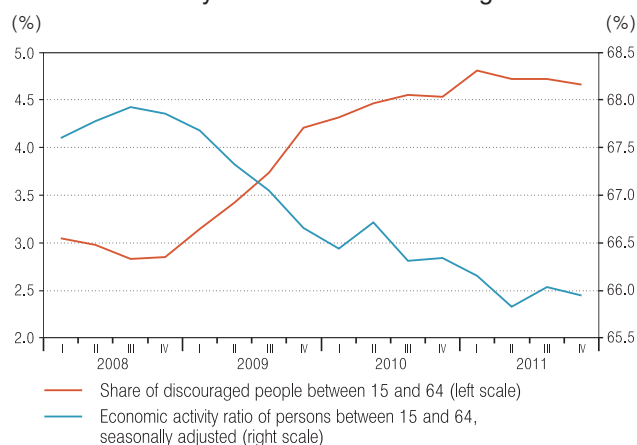
## Unemployment

(%, share of labour force; seasonally adjusted data)



Sources: NSI, Employment Agency, BNB.

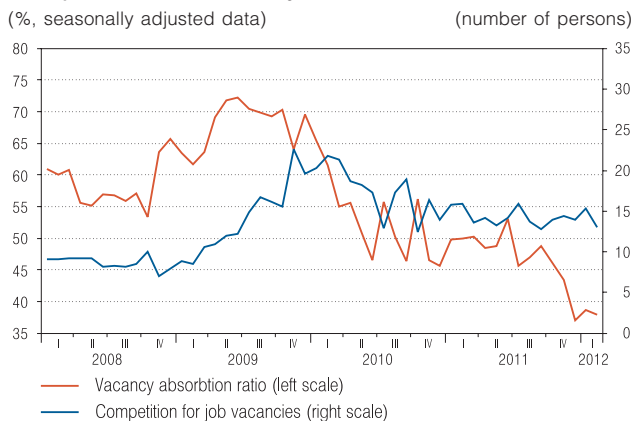
## Economic Activity and Share of Discouraged Persons



Sources: NSI, BNB.



## Competition and Vacancy Ratio



Sources: Employment Agency, BNB.

Labour supply may also be assessed on the basis of the competition for occupying vacancies indicator. Based on the Employment Agency data, in 2011 and in early 2012 the competition for occupying a vacancy was lower than in 2010, though still remaining comparatively high and constant: 14 persons on average for a vacant job. In the first months of 2012 the vacancy absorption ratio (with the Employment Agency as an intermediary)<sup>12</sup> remained at its end-2011 levels, which signals higher labour demand/supply imbalances.

Both labour supply and household consumption reflect income dynamics. Based on the national account data, in 2011 nominal wage *per* employee decreased its rate of growth on 2010. Quarter-on-quarter growth rates of nominal wage *per* employee in the third and fourth quarters were lower than in the first half of the year (a decrease from 2.3 and 2.6 per cent in the first and second quarters to 0.8 and 1.2 per cent in the third and fourth quarters). Real wage (deflated by HICP) also remained comparatively constant in the second half of the year, posting growth of 0.3 and 0.1 per cent respectively in the third and fourth quarters. Trade and repair of motor vehicles and motorcycles, transport, storage and mail services, hotels and restaurants recorded declines in real terms along with construction.

Based on NSI data of the household budgets survey, the average household income from wages *per* household member slowed down

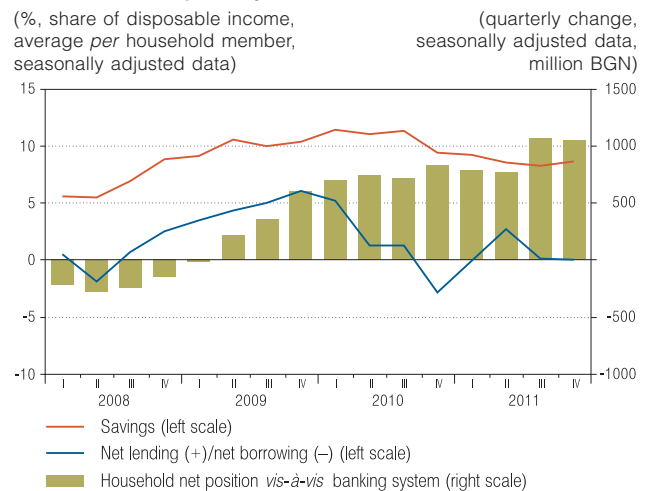
<sup>12</sup> A ratio between the number of vacancies in a particular month which were occupied in this month and the number of offered job vacancies in the same month.

in the third and fourth quarters of 2011 to 6.7 and 5.7 per cent nominally on an annual basis (against 8.4 per cent in the second quarter).

In the second half of the year the wage bill in total economy remained comparatively constant, posting slight quarter-on-quarter growth rates both in real and nominal terms.

Savings measured by the net assets of households in the banking system continued to increase in the third and fourth quarters of 2011. The share of savings in household disposable income also remained at the relatively high level attained.

## Household Propensity to Save



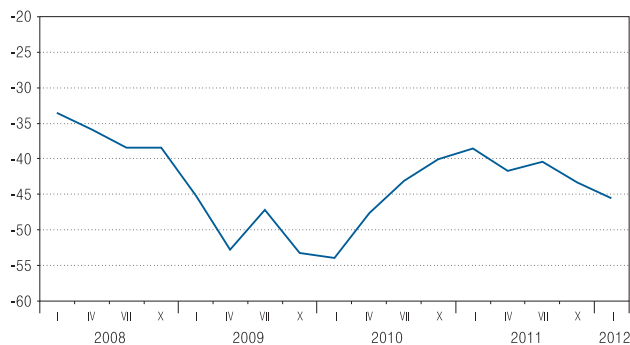
Sources: NSI Household Budget Survey, BNB.

Current and future household investment demand may be assessed on the basis of housing market statistics. The weak growth observed in the number of building permits in the third and fourth quarters of 2011 may reflect an improvement in investment demand, though the number of residential dwellings under building permits remained at relatively low levels. In addition, the average market prices of dwellings continued to decline from mid-2010 to the fourth quarter of 2011 by about 6 per cent annually on average. In the first quarter of 2012 the rate of decline in housing prices slowed down to 4.3 per cent.

The NSI consumer survey shows that after the temporary improvement in July as a result mainly of more optimistic expectations about the level of unemployment, the total household confidence indicator further worsened in October 2011 and January 2012, showing more pessimistic expectations regarding all its components.

### Households Confidence Indicator

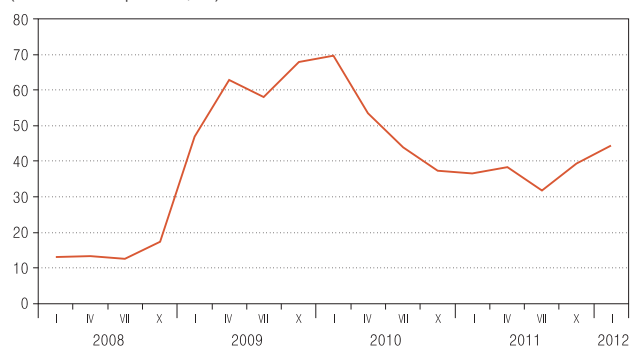
(balance of opinions; %)



Source: NSI Consumer Survey.

### Unemployment Expectations in the Next Twelve Months

(balance of opinions; %)

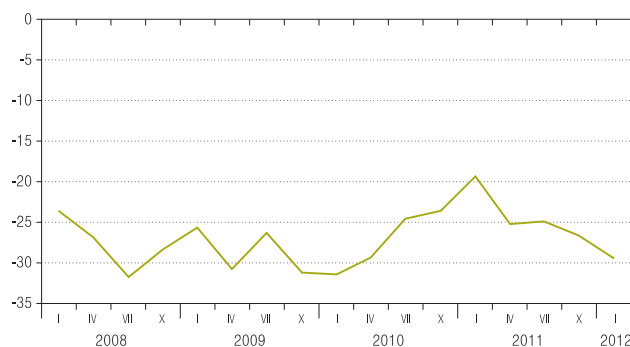


Source: NSI Consumer Survey.

Consumer survey data also suggest a decline in expected inflation in the following 12 months.

### Expectations of Households' Financial Performance in the Next Twelve Months

(balance of opinions; %)



Source: NSI Consumer Survey.

According to the business situation survey, firms' employment expectations also remained negative. Still negative values of this indicator by sector, its instability and our economic activity projection give grounds to expect that only in 2013 a trend to employment recovery may be formed. In 2012 a gradual decrease in decline rates is expected.

In the second quarter of 2012 the employment decline rate is expected to slow down quarter on quarter to -0.8 and -0.2 per cent and to -0.7 and 0 per cent in the third quarter. In case of a potential higher than expected escalation of the euro area public debt crisis which would lead to an increased pessimism of firms regarding export and domestic demand growth, these rates are likely to hover around and below the the floor of the range. On the other hand, more favourable dynamics associated with stronger than expected economic activity and greater assurance of firms about the speed of economic recovery could push the rates to and above the upper endpoint of the range. Since this projection is largely conservative and most of labour cost optimisation through personnel dismissal was completed in the 2009 to 2011 period, no further significant decrease in employment may be expected.

Expectations of slow employment recovery and comparatively high level of unemployment will probably result in a more moderate increase in nominal wages in 2012, with the strong link between real wage growth and labour productivity being sustained.

In line with these developments, the recovery of consumer and investment demand of households is likely to retain its growth rates of the second half of 2011.

## Retail Trade Turnover

(% on the previous quarter; seasonally adjusted data at constant prices)

	2009				2010				2011				2012
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I
Retail trade turnover (excluding cars and motorcycles) incl.	-3.0	-3.4	-2.0	-1.6	-5.6	-0.4	0.9	-0.4	-0.5	-0.7	-1.3	-1.1	-1.4
Foods, drinks and tobacco	6.8	-0.4	0.8	0.1	0.8	0.9	0.0	0.1	-1.5	-0.5	0.1	-0.1	1.0
Textile, clothing, footwear and leather	-6.4	-2.4	-3.3	1.2	6.9	0.2	1.3	-0.2	-1.0	-2.9	-3.7	1.0	-17.2
Household goods and home appliances	-16.1	-4.6	-4.9	-3.8	-11.1	0.5	-0.3	-2.1	-2.9	-1.4	-2.4	-2.5	-7.9
Computers and communication equipment, etc	-23.4	-1.9	-2.5	-2.7	-1.7	-0.8	8.2	1.5	-8.7	0.5	0.3	-0.9	0.2
Pharmaceutical and medical goods, cosmetics and toiletries	6.3	-0.9	2.2	1.8	3.3	1.4	1.1	1.7	-1.4	3.1	2.4	3.0	0.8
Unspecialised shops with different kinds of goods	52.4	-0.3	-0.5	0.1	16.9	1.8	3.4	2.3	1.6	-0.2	-2.1	0.0	-6.4
Automobile fuels and lubricants	-2.6	-3.7	0.1	-0.1	-30.2	1.2	2.7	-0.4	1.1	-0.8	-1.8	-1.4	-2.2

Source: NSI Domestic Trade Survey.

## Employment and Income Dynamics

(% on the previous quarter; seasonally adjusted data unless otherwise indicated)

	2009				2010				2011				2012
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I
Employed	-0.6	-1.2	-1.8	-1.8	-0.8	-1.5	-0.3	-1.7	-1.2	-0.6	-0.9	0.2	-0.6
Compensation per employee*	1.0	3.1	3.3	0.0	6.3	-0.7	1.3	0.9	-1.0	2.1	0.3	0.1	1.4
Wage bill, real terms*	-0.5	2.2	1.8	-3.7	7.3	-3.4	-0.5	1.5	-3.2	2.2	0.3	0.0	1.9
Unemployment (15+), average for the period, % of the labour force	5.8	6.3	7.3	8.0	9.3	10.0	10.4	11.1	11.1	11.3	11.1	11.4	11.0

\* Data deflated by HICP.

Sources: NSI – SNA, NSI – Labour Force Survey, BNB own calculations, Eurostat.

## Government Finance and Consumption

Final quarterly data on the consolidated fiscal programme performance show that the cash-based budget balance for 2011 came to BGN -1487.7 million (2.0 per cent of GDP). On an accrual basis (under ESA'95 methodology), the general government deficit reached BGN 1575.8 million (2.1 per cent of GDP). According to preliminary monthly data of the Ministry of Finance, the consolidated fiscal programme balance by end-March 2012 reached BGN -687.2 million or -0.9 per cent of projected GDP for the year.

Over the last quarter of 2011 government consumption had a zero contribution to GDP growth. Its overall contribution in 2011 was positive although coming to only 0.1 percentage point. In the second and third quarters of 2012 this contribution is expected to remain positive but close to zero.

Final quarterly data on the consolidated fiscal programme performance show that the cash-based budget balance for 2011 came to BGN -1487.7 million (2.0 per cent of GDP), down some BGN 475 million *vis-à-vis* the budget deficit set under the State Budget Law and BGN 1335 million *vis-à-vis* the 2010 deficit. The increase in tax revenue and mostly the effective reduction of expenditure were the main drivers behind the budget deficit improvement in 2011.

Total budget revenue in 2011 came to BGN 25,378.6 million, or 96.8 per cent of consoli-

dated fiscal programme estimates. While the good tax revenue performance in 2011 was the main factor for budget revenue growth (6.0 per cent), in the last quarter of 2011 the annual 6.4 per cent growth reflected primarily the increased EU funds in December.

In the fourth quarter of 2011 a sharp slowdown in VAT revenue growth was observed as a result largely of the different dynamics of VAT refund at the end of 2010 and end of 2011.<sup>13</sup> Though at

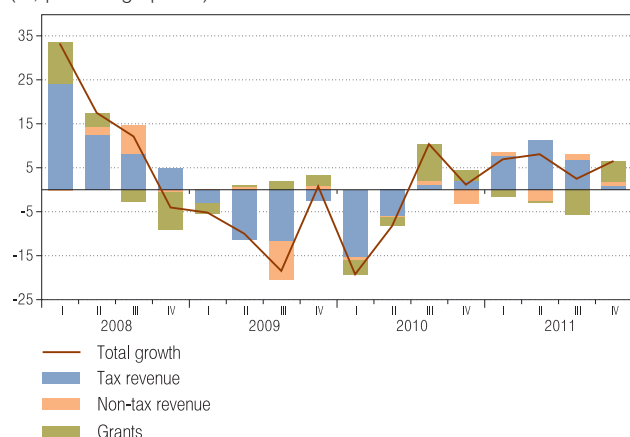
<sup>13</sup> Unlike the previous two years, 2011 saw no postponement of tax credit refunds to the first months of the following year.

a lesser extent, indirect taxes in the last quarter were affected by household consumption contraction in nominal terms. In 2011 indirect tax growth was 6.5 per cent, exceeding nominal consumption growth (3.2 per cent) due to the measures to improve tax collection and the minimal increase in some excise rates of fuels.

The annual growth of profit tax revenue (10.5 per cent) and income tax for individuals (7.3 per cent) in 2011 slightly exceeded the nominal change in the relevant macroeconomic tax bases mainly due to one-off factors in the fourth quarter when direct tax revenue rose by 14.0 per cent.<sup>14</sup> Direct tax revenue grew 8.6 per cent on 2010.

#### Contribution of Major Groups of Revenue to Growth in Total Revenue and Grants (Quarterly, on an Annual Basis)

(%, percentage points)



Sources: MF, BNB.

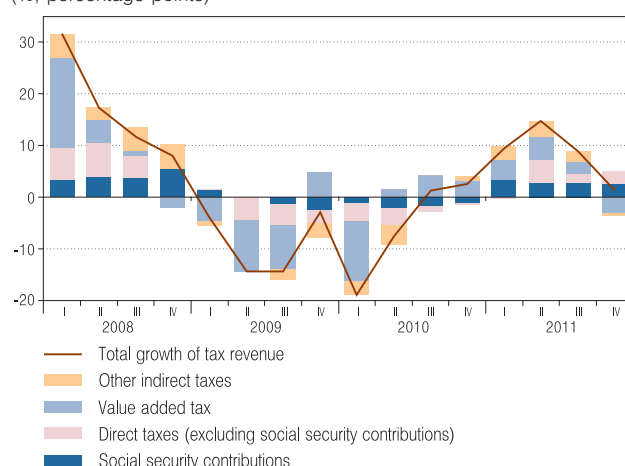
In 2011 social contribution receipts increased by 10.9 per cent, contributing most significantly (2.3 percentage points) to total budget revenue growth. However, social contribution receipts remained BGN 545 million less than those set in the National Social Security budget.

At the end of 2011 implementation of EU fund utilisation budget ended at a surplus of BGN 168 million after the significant resources transferred in December by the European Commission under the EU structural and cohesion funds. However, implementation of revenue from grants was merely 66.1 per cent.

<sup>14</sup> See Economic Review, issue 4 of 2011.

#### Contribution of Major Tax Groups to Tax Revenue Growth under the Consolidated Fiscal Programme (Quarterly, on an Annual Basis)

(%, percentage points)



Sources: MF, BNB.

In the fourth quarter of 2011 total budget expenditure (including also Bulgaria's contribution to EU budget) decreased by 2.5 per cent on the same period of 2010, accounting for BGN 7684.8 million. Lower government expenditure in the last three months of 2011 were entirely a result of the limited investment and operational expenditure which offset the subsidies growth and the moderate increase in wage and social insurance contributions.

Based on MF data, consolidated fiscal programme spending for 2011 (including EU budget contribution) came to BGN 26,866.3 million, posting only 0.4 per cent growth on the previous year. Only capital expenditures<sup>15</sup> recorded a decline (-16.1 per cent) compared with the prior-year level. Wage and social insurance contributions, and operational expenditure stood close to the levels of the previous year (1.4 per cent and 0.4 per cent change respectively). In 2011 social expenditure (1.4 percentage points) and subsidy payments (0.4 percentage points) had the highest positive contribution to total expenditure growth.

On an accrual basis (under ESA'95 methodology), the general government deficit in 2011 reached BGN 1575.8 million (2.1 per cent of GDP) whereby the EU Council recommendation of 13 July 2010 for correcting the excessive

<sup>15</sup> Including the government reserve contribution.

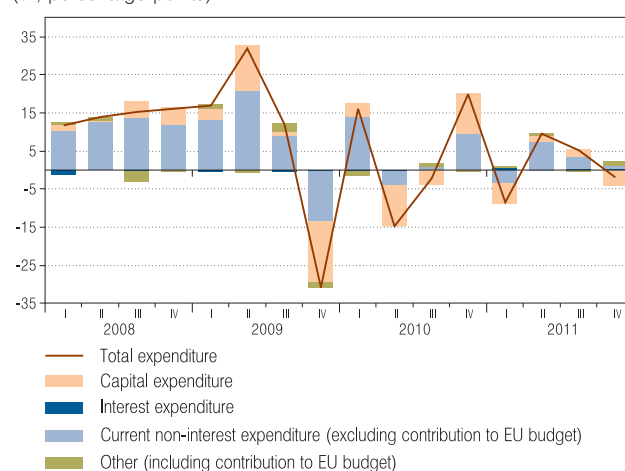
deficit until the end of 2011 was fulfilled. The deficit level under ESA'95 was 0.4 percentage points lower than the value set in Bulgaria's Convergence Programme for the 2011–2014 period.

According to the Budget Forecast for the 2013–2015 period adopted by the Council of Ministers on 17 April 2012, an improvement is projected in the budget cash deficit under the consolidated fiscal programme for 2012 to 1.4 per cent of projected GDP (BGN -1092.3 million). Planned revenue and grants (BGN 28,752.1 million) were 13.3 per cent higher than the receipts in 2011, while the projected growth of total budget expenditure (including the contribution to EU budget) *vis-à-vis* the previous year's implementation was 11.1 per cent (to a level of BGN 29,844.3 million). The planned high growth of total budget revenue was mainly due to the set higher grant receipts (by 167.6 per cent) while tax revenue is expected to rise by 4.9 per cent. Reflecting the expected high EU fund absorption rate, the planned 2012 capital expenditure was 72.1 per cent higher than that in 2011. This expenditure had a major contribution to the planned growth in total budget expenditure given the minimal 0.3 per cent increase of current non-interest expenditure set under the Law.

The consolidated fiscal programme deficit for 2012 is expected to be improved entirely thanks to the budget revenue side. To this end, risks to the successful fiscal consolidation are associated primarily with the optimistic projection about EU fund utilisation and comparatively high estimates of indirect tax revenue growth compared with the expected dynamics of their macroeconomic tax bases.

According to preliminary monthly data of the Ministry of Finance, the consolidated fiscal programme balance as of the end of March 2012 reached BGN -687.2 million. EU programme deficit was BGN 256.8 million due to the acceleration of capital expenditure which should be refunded by the European Commission within several months after reporting of expenses to the EC.

**Contribution of Major Groups of Expenditure to Total Expenditure Growth (Quarterly, on an Annual Basis)**  
(%, percentage points)



Sources: MF, BNB.

Total budget revenue and grants in the first three months of 2012 were BGN 5955.7 million, up 7.7 per cent on the same period of 2011. VAT receipts (7.04 percentage points) again made a significant contribution to total revenue growth. Divergent dynamics of VAT refunds in 2011 and 2012 was the major driver for this. In the first months of 2011 tax credit was refunded more rapidly following some moderation of the effectively refunded VAT resources at the end of 2010. Higher fuel prices in international markets had a significant effect on VAT revenue from imports which as of end-March rose by 15.2 per cent compared to the first quarter of 2011. Corporate tax revenue showed a negative trend<sup>16</sup>, posting a decrease of 9.7 per cent annually in the first quarter of 2012. This decline was mainly due to the 11.3 per cent fall in the revenue from corporate tax of non-financial corporations (including non-profit legal persons). The fall in revenue from social insurance between January and March 2012 was entirely due to the one-off March transfers by professional pension funds.<sup>17</sup>

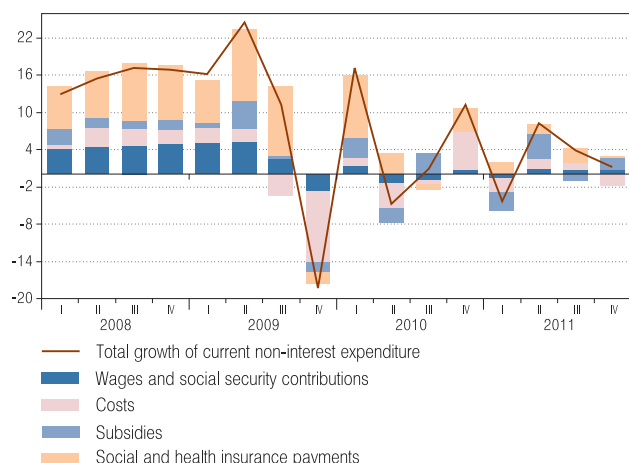
<sup>16</sup> Including revenue from taxes on dividends and liquidation interests of resident and non-resident legal entities and income tax of non-resident legal entities.

<sup>17</sup> If this one-off effect is removed, growth in the first three months would be 5.5 per cent on an annual basis.



### Contribution of Major Groups of Current Non-interest Expenditure to Total Expenditure Growth (Quarterly, on an Annual Basis)

(%, percentage points)

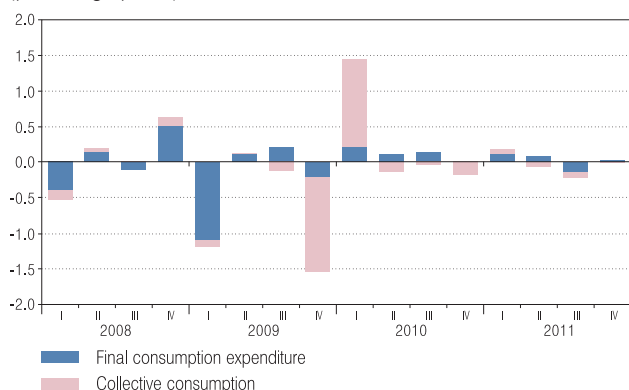


Sources: MF, BNB.

Between January and March expenditure on the consolidated fiscal programme (including the EU budget contribution) reached BGN 6642.9 million: an increase of 5.9 per cent on the corresponding period of 2011. This rise was primarily due to the increased social payments (1.21 percentage point contribution) and capital expenditure (a contribution of 2.43 percentage points in total expenditure growth), with the bulk of investment made on EU programmes.

### Contribution of Government Consumption to Economic Growth (Quarter-on-quarter Contribution to Seasonally Adjusted GDP Growth)

(percentage points)



Sources: NSI, BNB.

Subsidy payments growth remained also high in the first three months of the year (1.16 percentage point contribution) as a result of repayment of January agricultural subsidies under the single payment scheme and national payments scheme. In early March the EC refunded

to Bulgaria subsidies under the single payment scheme to the amount of BGN 683.9 million.<sup>18</sup>

Given the government measures to curb current non-interest expenditures over the year and the projected monthly profile of these expenditures, the contribution of government consumption to GDP growth in the second and third quarters is expected to stay positive but close to zero. The increase in minimum wage effective as of the beginning of May will be a driving factor for the expected slight acceleration of growth in wage expenditure over this period.

The accumulated budget deficit and repayments on maturing government debt instruments were mainly financed by drawing funds from the fiscal reserve which by end-March fell by BGN 468.0 million on end-2011 to a level of BGN 4530.8 million. The remaining portion of the funds required to finance budget were raised mostly by means of a positive net issue in the domestic government bond market (BGN 320.6 million) and positive net external financing to the amount of BGN 143.2 million.

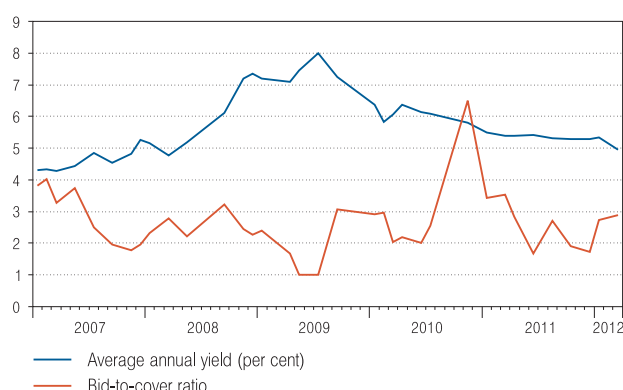
### Government Securities Market

In the first four months of 2012 government securities of BGN 663.8 million, more than half of the amount planned in the 2012 MF issue policy (BGN 1220 million), were sold. This was an increase of BGN 377.0 million compared with the same period of the prior year. Only in February the volume of government securities offered for sale reached BGN 236.2 million. Despite the large volume of bonds offered for sale in the first four months of the year (BGN 688.4 million<sup>19</sup>), the bid-to-cover ratio remained comparatively high at 2.55. The residual term to maturity of primary market government securities in the January to April period varied between two years and ten years and six months, with four of a total of 13 issues denominated in euro. The January seven-year euro-denominated government bond issue was most sought by investors whose bids exceeded almost 3.42 times the quantity offered by the Ministry of Finance.

<sup>18</sup> EU refundable resources do not affect the budget deficit since they are reported as a financial transaction under the financing item. National payments, however, are included in the subsidy expenditure, thus having a direct effect on the budget deficit.

<sup>19</sup> This does not include BGN 35 million of five-year bond issue offered at the 9 April auction when the MF rejected all bids received.

## Ten-Year-and-Six-Month Government Bond Primary Market Dynamics



Source: BNB.

Buoyant investors' demand in the domestic bond market affected favourably the average annual yield attained at primary auctions, with bids at only two of all 13 auctions received at prices lower than the nominal value. The average yield of the ten-year-and-six-month issue sold in January<sup>20</sup> was 5.35 per cent, down 14 basis points against the yield attained at the first 2011 auction for sale of government bonds with the same maturity. In the March opening of this issue, the average annual yield of the approved BGN 55 million decreased to 4.95 per cent. In the first two months of the year the trend to a steady decline in the long-term interest rate for assessing the degree of convergence was

temporarily reversed. Compared with the December value (5.23 per cent), the interest rate increased by 7 basis points in January and by another basis point in February to 5.31 per cent. In March, however, it fell to 5.07 per cent.

Despite the increased amount of circulating domestic government securities over the first quarter of 2012, the liquidity ratio in the secondary government bond market remained significantly lower (below 1) compared with the same period of 2011 when it was kept within a range between 1.10 and 1.58. The main reason behind this was the high activity in the primary bond market on behalf of pension and insurance corporations which acquired in the first three months almost half of the newly issued government debt instruments, rarely offering them for subsequent trading. The subdued activity in the repo market segment had also a negative effect on the liquidity ratio over the review period.

According to the updated MF issue calendars, in the second quarter of the year domestic government securities issues are projected to reach a total nominal value of BGN 147.2 million. Assuming that the issues in May and June will be sold successfully and the approved volume corresponds to the initially announced volume, the total nominal value of the gross issue for the half year would be BGN 733.8 million.

## Behaviour of Firms and Competitiveness

Against the backdrop of the slowdown in economic activity of Bulgaria's major trading partners and the weak domestic demand, in the fourth quarter of 2011 gross value added in economy rose by 0.2 per cent on a quarterly basis. Due to the accumulation of unfavourable domestic and external developments, the economic activity of firms is expected to moderate in the second quarter and to start to recover slowly in the third quarter of 2012. Firms are expected to continue implementing a policy of improving cost competitiveness and remain conservative with a view to labour force recruitment.

In the fourth quarter of 2011 gross value added rose by 0.2 per cent on a quarterly basis after the reported standstill in the third quarter of 2011. These rates may be interpreted as a slowdown in recovery of firms' economic activity over the second half of 2011, which was associated

with the worsening of the external economic situation and weak domestic demand.

Despite the economic activity fall in major Bulgaria's trading partners over the fourth quarter of 2011, export-oriented industrial firms managed to increase the volume of their goods exports. Concurrently, they used stocks of finished products accumulated in the third quarter of 2011 whereby the change in economy's inventories had a negative contribution to real GDP

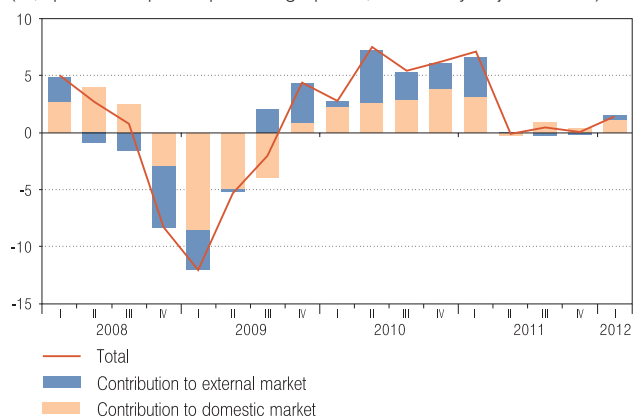
<sup>20</sup> In 2012 this issue will be used by the European Central Bank as a basis for calculating the harmonised long-term interest rate for assessing the degree of convergence in line with the Maastricht criterion.

growth in the fourth quarter. On the domestic demand side, no essential improvement was registered as a result of the still low increases in household consumption and continuing declines in investment which led to a decrease in goods imports on a quarterly basis. Reflecting the effect of the two opposite trends – an increase in exports and a decrease in domestic demand – in the fourth quarter of 2011, gross value added in industry over the fourth quarter of 2011 rose slightly by 0.9 per cent on the third quarter.

Industrial output contraction in most EU Member States impacted negatively production of intermediate consumption goods in Bulgaria since the bulk of this production is export oriented. At the same time, the decrease in household consumption in our major trading partners had a negative effect on the production of non-durable consumer goods. These two groups of goods (for intermediate and household consumption) contributed most significantly to the fourth quarter's decline in the industrial output index by 0.7 per cent on a quarterly basis. Data for the first three months of this year indicate continuation of this trend.

### Industry Turnover Dynamics

(%, quarter-on-quarter percentage points, seasonally adjusted data)



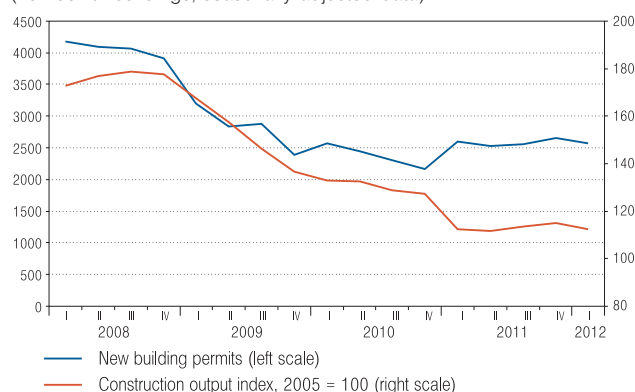
Note: Non-additive data on contributions due to multi-factor seasonal adjustment of the total amount and its components.

Sources: NSI, BNB.

Nominal external market turnover data have shown no changes since the second half of 2011, with this trend persisting in early 2012. At the end of 2011 domestic market turnover experienced no essential changes on a quarterly basis, increasing slightly in the first three months of 2012.

### Construction Output Dynamics and New Buildings Permits Issued

(number of buildings; seasonally adjusted data)



Sources: NSI, BNB.

In the fourth quarter of 2011 construction activity in Bulgaria was still subdued, with gross value added contracting on an annual basis by 6.9 per cent. Economic indicators for this sector show no changes in the volume of construction output which was due to the continued decline in building contraction, reflecting the weak household demand. This negative trend was partially compensated by the increase in civil and engineering construction which has started since the middle of 2011.

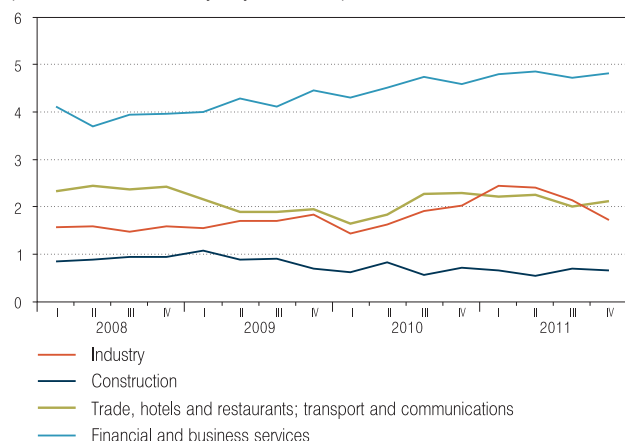
In the services sector, gross value added rose in the last quarter of 2011 thanks mainly to the improved economic activity in the following sectors: professional and scientific activities, administrative and support service activities, real estate operations, information and communication, telecommunications. The positive trend to an improvement of firms' activity in these sectors was also confirmed by the data on nominal volumes, with the film and TV production, sound recording and music publishing activities, information technologies and services posting the highest growth on a quarterly basis. The continuous increase in exports of IT-related and other business services was the main factor for improving retail sales. At the same time, nominal volumes in the domestic market increased thanks to higher demand and increased selling prices.

Data on trade displayed a mixed trend, with the dynamics of gross value added marked by a volatility throughout 2011. Lower household demand reflected on trade firms' earnings over the fourth quarter measured both in nominal terms and at constant prices. As a result, sales in all groups of goods declined, with the exception of pharmaceutical and medical goods.

The upward trend in gross operating surplus whose dynamics may serve as an estimate of firms' financial performance was reversed, its value falling on a quarterly basis in the fourth quarter of 2011. The decrease in gross operating surplus for industry stemming from difficulties in domestic and external sales had the major contribution for this fall. In the services sector, gross operating surplus also went down, albeit at a lower rate compared with industry. Business services and information and communication had positive contribution to gross operating surplus.

### Gross Operating Surplus at Current Prices

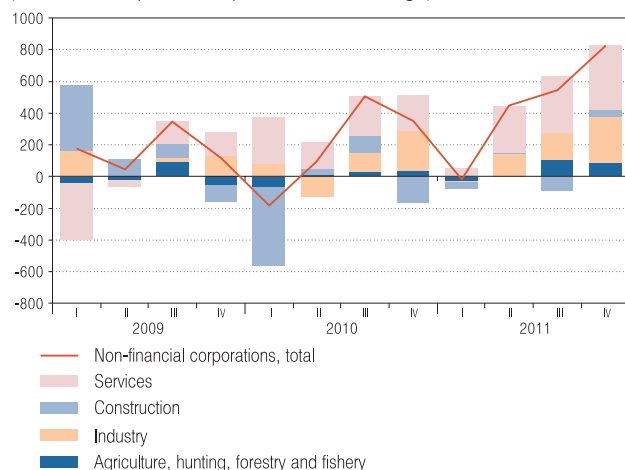
(billion BGN; seasonally adjusted data)



Sources: NSI, BNB.

### Loans to Non-financial Corporations

(million BGN, quarter-on-quarter volume change)

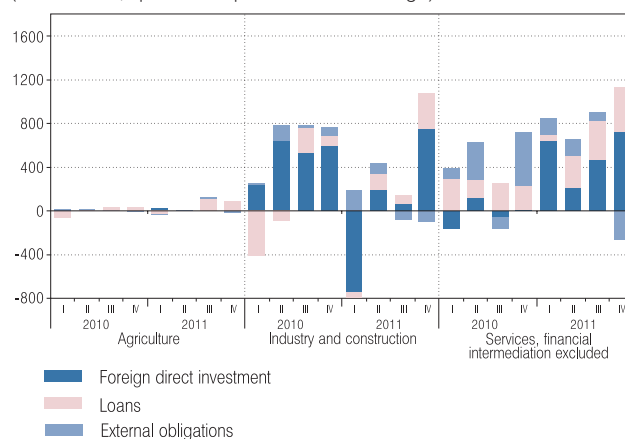


Source: BNB.

In the last quarter of 2011 bank loans to non-financial corporations increased in all economic sectors, with services and industry contributing most to this. Managers' expectations about future economic activity in these sectors remained relatively positive despite their lower estimate of the end-2011 economic activity.

### Financing Sources

(million BGN, quarter-on-quarter volume change)

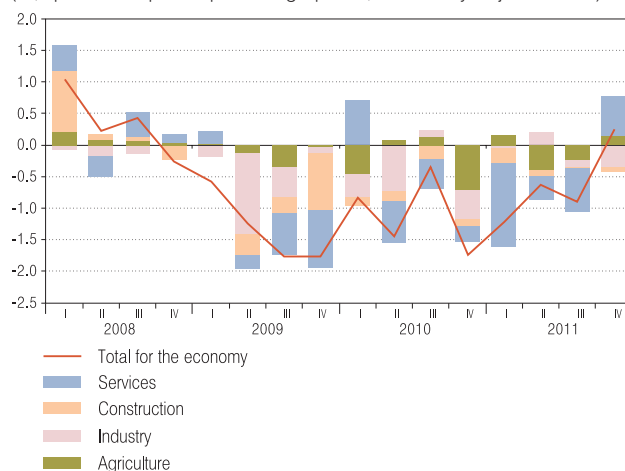


Sources: NSI, BNB.

In the fourth quarter FDI inflow to the services and industrial sector increased on the previous quarter. Higher FDI inflow in the last quarter of 2011 enabled firms of all economic sectors to reduce their external obligations. The services sector had the major contribution to this due to its improved activity compared with 2010.

### Contribution to Changes in the Number of Employed by Economic Sector

(%, quarter-on-quarter percentage points, seasonally adjusted data)



Note: Non-additive data on contributions due to direct seasonal adjustment of the total amount and its components.

Sources: NSI, BNB.

The services sector had the largest contribution to the quarter-on-quarter increase in employment over the fourth quarter of 2011. However, firms in the other sectors continued to optimise their labour costs through job reductions, with employment in industry declining most significantly as a result of the decreased volume of industrial output. Based on business situation surveys, the uncertain economic environment remained the

major factor impeding industrial corporations' activity. Still, a trend to increasing the significance of insufficient demand for products was observed.

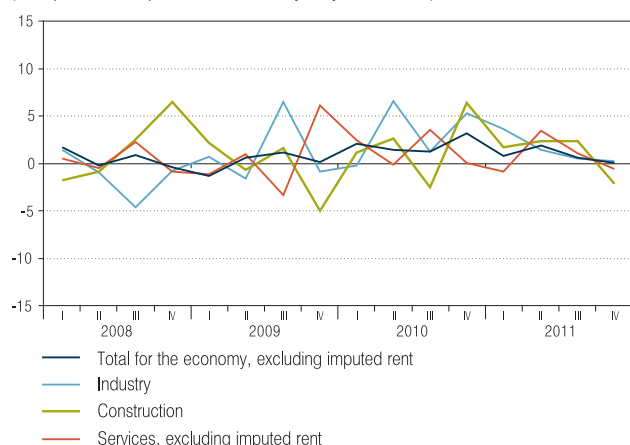
Reflecting the policy of optimising labour costs of firms, real labour productivity in overall economy increased throughout 2011, though decreasing its growth rate to zero in the last quarter of the year. In 2011 the industrial sector had a positive contribution to the productivity growth.

The staff reduction policy intended to improve the cost competitiveness of corporations is expected to be preserved in the second and third quarters of 2012. The deterioration in external economic environment is likely to affect firms' propensity to hire personnel. Therefore, the slight employment increase in the fourth quarter of 2011 may be assessed as a temporary phenomenon, rather than a shift in the trend. According to the business survey data on staff expectations in the following three months, managers decreased their propensity to boost employment in their firms.

Lower economic activity coupled with higher growth rate of nominal wages in economy compared with labour productivity reflected on unit labour costs both in nominal and real terms. In the fourth quarter of 2011 quarter-on-quarter unit labour costs increased by 1.3 per cent in nominal terms and by 4.1 per cent in real terms. Real unit labour costs grew faster than nominal costs due to the fourth quarter's contraction of profit margins compared with the third quarter of 2011.

### Labour Productivity Developments (Value Added *per* Employee)

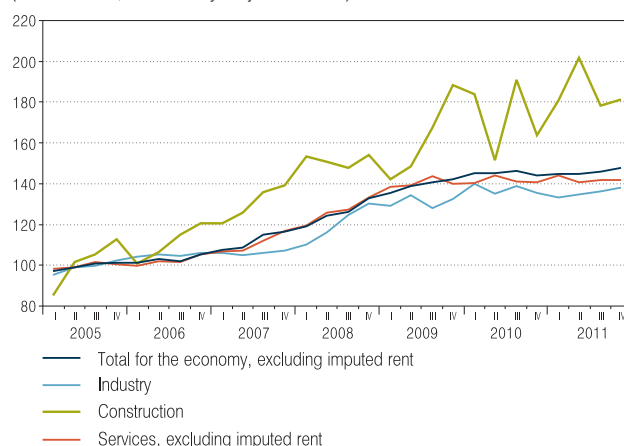
(%, quarter-on-quarter; seasonally adjusted data)



Sources: NSI, BNB.

### Nominal Unit Labour Costs

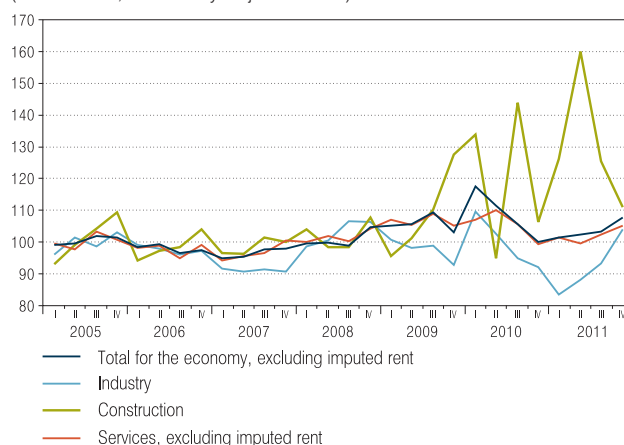
(2005 = 100; seasonally adjusted data)



Sources: NSI, BNB.

### Real Unit Labour Costs

(2005 = 100; seasonally adjusted data)



Sources: NSI, BNB.

Investment activity of corporations measured by expenditure on acquiring fixed assets at current prices continued to decrease in the fourth quarter compared with the corresponding quarter of the previous year. The most significant decrease of 33.1 per cent was reported in the services sector, with the exception of the information and communication, and telecommunications subsector where investments continued to rise due to the improvement in its economic activity.

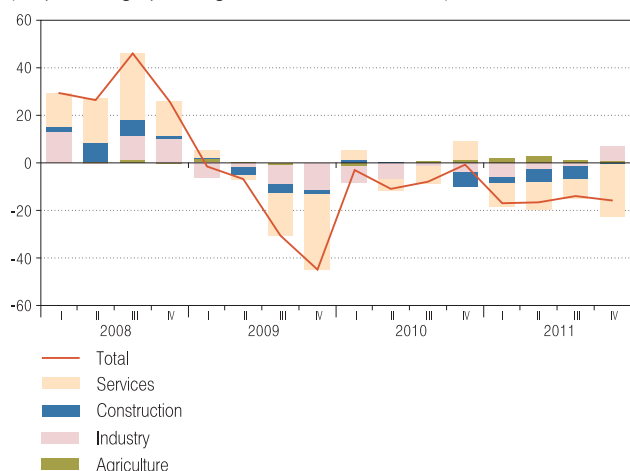
Investment activity in industry was relatively high. On the one hand, the rising capacity utilisation rate in 2011 required investments to replace depreciated capital. According to the short-term business survey of industrial enterprises, managers point to the increasing role of materials and/or equipment shortages as a factor limiting economic activity in this sector. On the other hand, the increased external demand for goods in



2010 and 2011 improved the economic outlook in this sector.

### Contribution to the Annual Rate of Change in Expenditure on Acquiring Fixed Assets by Industry

(%, percentage points, growth on an annual basis)



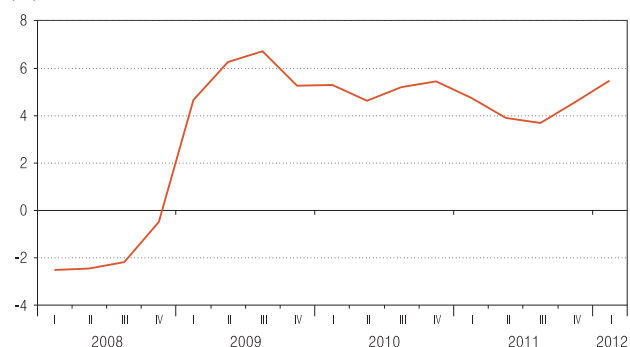
Note: Due to the lack of final data, the quarterly data are preliminary.

Sources: NSI, BNB.

In real terms, investments also continued to decline in the fourth quarter of 2011. The uncertain economic environment continued to be a factor limiting investment activity. The relatively high level of the real interest rate derived by enterprises' expectations of inflation was an additional dampening factor.

### Real Interest Rate

(%)



Sources: BNB, NSI.

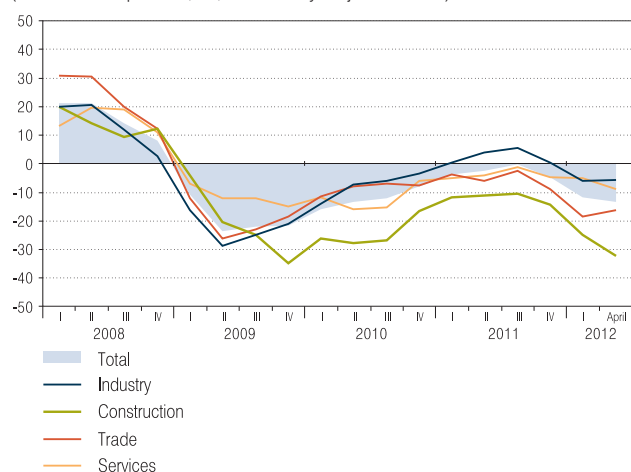
Economic activity slowdown in Bulgaria's major trading partners and the lack of a clear trend to external demand improvements continued to affect the current economic activity in all sectors. Short-term economic indicators point to a lower economic activity in Bulgaria over the first quarter of 2012 due to the accumulation of both internal and external unfavourable factors for

growth. The lower level of new foreign orders to industrial enterprises in the first months of 2012 remained a decisive factor behind the decline in the industrial production index. Data on trade volumes show that households continued to reduce their demand for goods. As a result, corporations' incentives to invest remained low.

Although these negative factors have a slight effect on the expectations about the future economic activity, most likely they will further affect it in the second quarter of 2012. In the third quarter, however, recovery is expected to continue gradually at slow rates, driven by the improvement in external conditions and recovery in domestic demand growth.

### Current Economic Activity

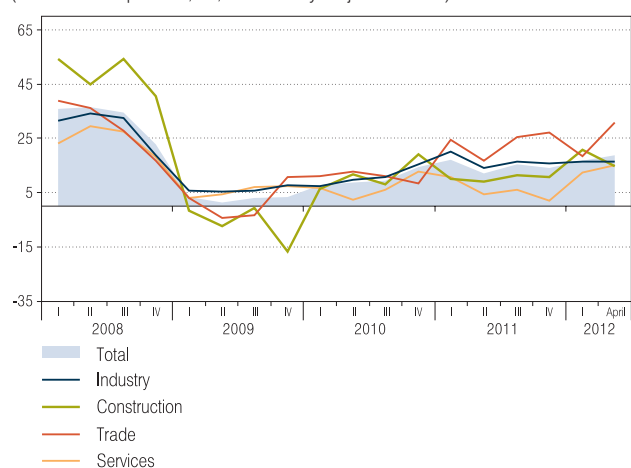
(balance of opinions, %; seasonally adjusted data)



Sources: NSI, BNB.

### Expectations about Future Economic Activity

(balance of opinions, %; seasonally adjusted data)



Sources: NSI, BNB.

## Exports and Imports of Goods

In 2011 nominal growth rate of exports continued to outpace that of imports regardless of the lower external demand. As a result, trade deficit contracted to 5.1 per cent of GDP from 7.7 per cent in 2010. Preliminary data on the balance of payments for the January – February 2012 period point to a decline in exports and increase in imports on an annual basis.

In the second and third quarters of 2012 nominal export growth is expected to decline due to weaker external demand and moderating international prices. The same trend is likely to be observed in imports, although less pronounced, due to the gradual improvement in domestic demand.

In 2011 the nominal growth rate of exports (30.0 per cent) continued to outstrip that of imports (21.2 per cent). As a result, trade deficit contracted by EUR 789.0 million on 2010 reaching EUR 1974.6 million<sup>21</sup>. The higher imports *vis-à-vis* exports growth reflected the stronger real growth (17.0 per cent compared with 10.5 per cent for imports) and the more sizeable rise in export than import prices. In 2011 the market share of Bulgarian goods in total EU imports increased by 15 per cent.

According to preliminary data on the balance of payments exports went down by 6.1 per cent while imports went up by 7.1 per cent in the January–February 2012 period.

Both imports and exports are expected to increase on an annual basis in the second and third quarters of 2012, albeit at a slower pace than in 2011. In nominal terms import growth will prove slightly more sluggish than that of exports' both as a result of weaker external demand and the fall in inflation on international commodity markets. The speed of domestic demand recovery will be the main driver behind import growth. Trade deficit is expected to be between 4.0 and 6.0 per cent of GDP.

Upside risks to the trade balance deficit stem from the possibility of faster recovery in domestic demand and a lower net exports contribution to GDP growth. A more sizeable oil price rise is also likely to contribute to a higher trade deficit. As a result, the prices of imported goods may rise more strongly than those of exported goods.

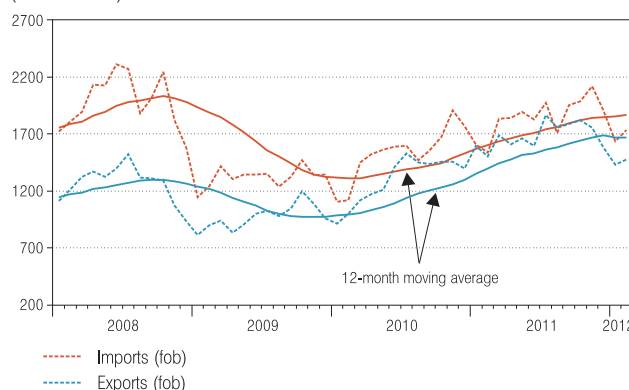
Trade balance would improve when the growth in external demand is higher than expected or in case of accelerating export growth with a

bigger market share on international markets. A more moderate oil price rise and/or higher than expected metal prices will also result in a decrease in trade deficit.

The 2011 decline in trade deficit was mainly a result of the higher surplus in trade balance of raw materials (EUR 716.4 million) and consumer goods (EUR 149.3 million) and a lower deficit of investment goods (EUR 101.7 million). The negative balance of energy resources worsened by EUR 407.8 million.

### Dynamics of Exports and Imports

(million EUR)



Source: BNB.

In 2011 all commodity groups contributed to the total nominal growth of exported goods. Base metals and their products (7.6 percentage points), machines, transportation vehicles, appliances, instruments and weapons (5.4 percentage points), mineral products and fuels (4.9 percentage points), animal and vegetable products, food, drink and tobacco (4.3 percentage points).

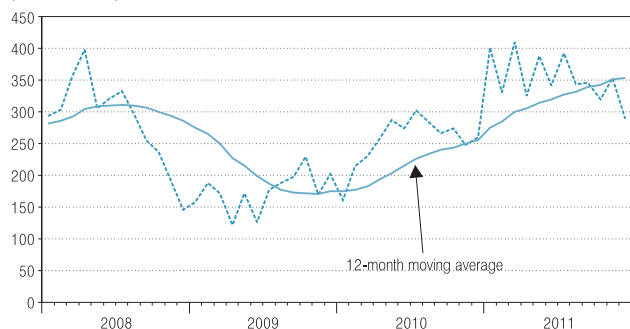
In 2011 exports of base metals and their products rose by 38.7 per cent on 2010 and reached EUR 4245.3 million with copper and copper products (25.6 percentage points) contributing most to this. In the second half of the year the nominal export growth rate of this item moderated due to weaker external demand and the fall

<sup>21</sup> The analysis presented in this section is based on nominal export and import data in euro. Data in real terms by commodity group are derived from deflators published by the NSI under the Standard International Trade Classification (SITC).

in international copper prices in the fourth quarter. In the second and third quarters of 2012 the export growth rate of this group is expected to moderate further reflecting the lower international metal prices and the relatively slight increase in external demand.

#### Exports of Base Metals and Base Metal Products

(million EUR)

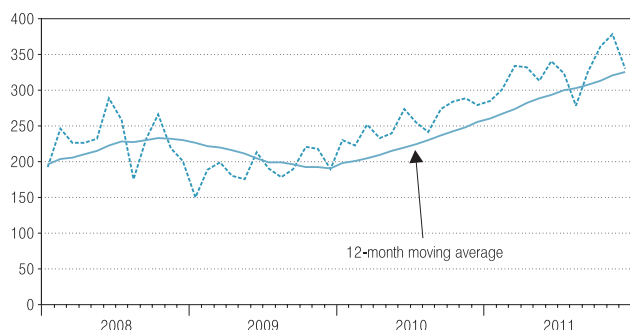


Source: BNB.

In 2011 exports of machines, transport vehicles, appliances and weapons amounted to EUR 3900.1 million: an increase of 27.2 per cent on the prior year. The electrical machinery and equipment (11.3 percentage points) and nuclear reactors, boilers, machines, appliances and machinery (10.8 percentage points) sub-groups contributed substantially to nominal growth. This group's growth rate will also moderate in the second half of 2012, but the slowdown will be much less distinct compared to the other groups. Nominal growth was mostly attributable to the increased real volume of exports. This group had the major contribution to real growth of total exports but in the second and the third quarters of 2012 it is expected to slow down due to weaker external demand.

#### Exports of Machines, Transport Vehicles, Appliances, Instruments and Weapons

(million EUR)



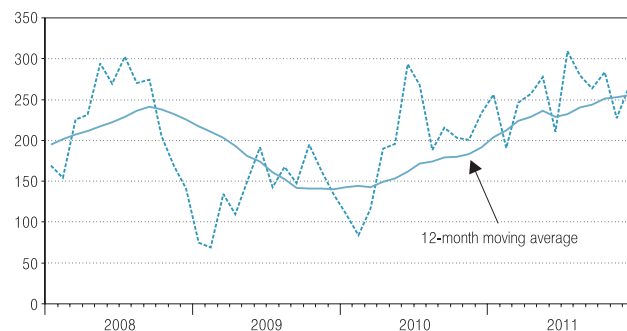
Source: BNB.

In 2011 exports of mineral products and fuels amounted to EUR 3070.1 million: up 33.5 per

cent on 2010. Mineral fuels, mineral oils and distilled products (26.6 percentage points) contributed most significantly to the growth of this group. Nominal growth over the review period was mainly attributable to price effect<sup>22</sup>. Over the projection horizon export growth rate is expected to remain positive due to the increase in international fuel prices.

#### Exports of Mineral Products and Fuels

(million EUR)

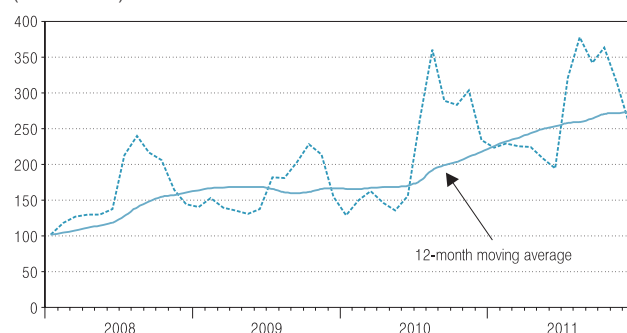


Source: BNB.

Over the past year exports of animal and vegetable products, food, drink and tobacco came to EUR 3285.9 million: up EUR 671.0 million compared with 2010. Oil seeds and fruit, different types of seeds (10.9 percentage points) made the major contribution to this growth due to the high real growth in the first half of the year<sup>23</sup>. In the second and third quarters of 2012 the exports of this group are expected to moderate due to both weaker external demand and a decline in international food prices.

#### Exports of Animal and Vegetable Products, Food, Drink and Tobacco

(million EUR)



Source: BNB.

<sup>22</sup> The export deflator for the mineral fuels, oils and related products group under SITC was used to estimate the price effect in the four quarters of 2011.

<sup>23</sup> The export deflator for the oil seeds and fruit division under SITC was used to estimate the price effect in all four quarters of 2011.

## Contribution of Commodity Groups to Trade Growth in 2011

	Exports		Imports (CIF)	
	growth, %	contribution, p.p.	growth, %	contribution, p.p.
Consumer goods	13.4	3.4	9.9	2.0
Raw materials	37.9	16.6	27.2	9.7
Investment goods	32.3	5.5	18.1	3.9
Energy resources	32.3	4.4	25.5	5.7
<b>Growth, total</b>	<b>30.0</b>		<b>21.3</b>	

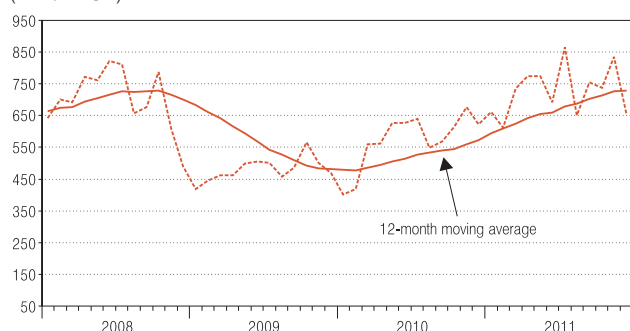
Source: BNB.

In 2011 imports (cif) reached EUR 23,346.0 million: up 21.3 per cent (EUR 4101.2 million) on an annual basis. Raw materials (9.7 percentage points) contributed most significantly to import growth. The remaining groups also had a positive contribution: energy resources (5.7 percentage points), investment goods (3.9 percentage points) and consumer goods (2.0 percentage points).

Imports of raw materials amounted to EUR 8736.6 million in 2011: an increase of 27.2 per cent on the previous year. The ores position (6.9 percentage points), other (5.6 percentage points) and cast iron, iron and steel (4.7 percentage points) contributed most significantly to the increase. The nominal growth of ores and cast iron, iron and steel in 2011 was due both to increased imports in real terms and to a price effect<sup>24</sup>. In the second and third quarters of 2012 the growth rate of this group is expected to moderate due to the easing of international price rises, but to remain positive consistent with gradual improvement in domestic demand.

### Imports of Raw Materials

(million EUR)



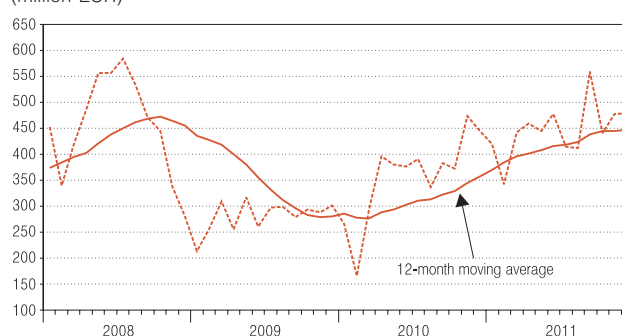
Source: BNB.

<sup>24</sup> The import deflators for the metalliferous ores and metal scrap and cast iron and steel divisions under SITC were used to estimate the price effect in all four quarters of 2011.

In 2011 imports of energy resources amounted to EUR 5365.1 million, an increase of 25.5 per cent on the corresponding period of 2010. The crude oil and gas position (16.7 percentage points) contributed most significantly to this growth. The increase in volumes was due to annual growth in international oil prices<sup>25</sup>. In the second and third quarters of 2012 the nominal growth rate of imports in this group is expected to remain positive largely due to the gradual recovery in domestic demand and the upward dynamics in international energy product prices.

### Imports of Energy Resources

(million EUR)



Source: BNB.

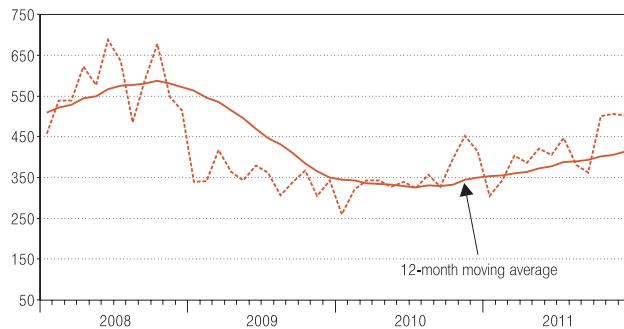
In 2011 imports of investment goods came to EUR 4961.5 million: up 18.1 per cent on 2010. Spare parts and equipment (7.8 percentage points), transport vehicles (6.5 percentage points) and machines, equipment and appliances (5.2 percentage points) were the main contributors to this rise. The real growth rate of imported investment goods remained relatively constant in all four quarters of 2011, accelerating slightly on an annual basis in the second quarter<sup>26</sup>. Over the projection horizon their growth rate is expected to remain positive, consistent with the gradual recovery of investment activity in Bulgaria.

<sup>25</sup> The import deflator for the mineral fuels, oils and related products group under SITC was used to estimate the price effect in all four quarters of 2011.

<sup>26</sup> The export deflator for the motor vehicles, motorcycles, bicycles, trailers and semi-trailers group under SITC was used to estimate the price effect in the four quarters of 2011.

### Imports of Investment Goods

(million EUR)



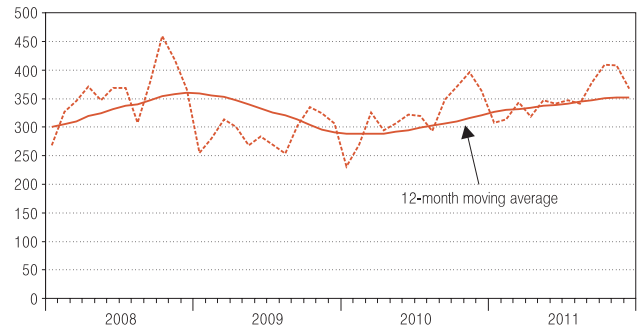
Source: BNB.

Imports of consumer goods recorded nominal growth of 9.9 per cent in 2011, reaching EUR 4226.5 million. This dynamics reflects mainly the contribution of foods, drinks and tobacco (5.3 percentage points), medicines and cosmetics (2.9 percentage points) and automobiles (1.4 percentage points). The nominal growth in the automobiles subgroup was largely attributable to the real growth in the exports of these

goods<sup>27</sup>. Over the projection horizon imports of consumer goods are expected to remain positive due to stronger domestic demand.

### Imports of Consumer Goods

(million EUR)



Source: BNB.

In 2011 Bulgarian exports to other EU Member States picked up by 33.5 per cent on an annual basis, while exports to non-EU countries increased by 24.5 per cent. Imports from EU Member States increased by 14.8 per cent and that from non-EU countries by 30.1 per cent.

<sup>27</sup> See footnote 26.

## Measurement and Presentation of Uncertainty in Forecasting Economic Indicators

Economic forecasting is in essence related to uncertainty in the future caused by various sources. For instance, sources of uncertainty involve possible changes in the structure of the economy, inaccuracies in the available information by the time of preparing the forecast, imperfections in the methods used in forecasting, pending economic policy decisions and random events (shocks). As the forecasts are prepared under the conditions of uncertainty, the use of the available information for the economy at a certain time (including statistical data, knowledge about the structure and functioning of economic mechanisms, expected parameters of the economic policy, etc.) is consistent with various future values of the indicators of interest<sup>1</sup>.

Depending on the manner of presenting the results the final users of the forecast may not perceive clearly enough the uncertainty associated with the projected values. In particular, the presentation in the form of a point forecast (e.g. 'we forecast average annual inflation of 2 per cent in 2012.') could be misconstrued as saying that the forecaster thinks that the materialisation of the forecast is sure or almost sure which may lead to incorrect expectations formation and inappropriate decisions. This problem is partly overcome by using interval forecasts (e.g. 'we forecast an average annual inflation for 2012 between 1.5 and 2.5 per cent'), but such a presentation presupposes equal treatment of all numeric values within the forecast interval. Moreover, this may form a misleading view that the possibility of being outside this interval is excluded. Therefore, it is recommended forecasts to be presented in a manner highlighting the uncertainty and at the same time to be enough clear and easy for interpretation. To comply with these requirements in preparing forecasts the following approaches could be used: specifying the direction to which the actual value could deviate from the forecast, or developing several scenarios for the future economic development.

<sup>1</sup> See Hendry, D. F. and N. R. Ericsson (eds.), *Understanding Economic Forecasts*. The MIT Press, 2003, or Hendry, D. F., *Forecasting Pitfalls*. *Bulletin of EU and US Inflation and Macroeconomic Analysis*. 100, 2003, p. 65–82, for further details on the issues related to forecasting and interpretation of forecasts for economic indicators.



## Fan Charts of the Expected Annual Rate of Change of Exemplary Economic Indicator

Chart A

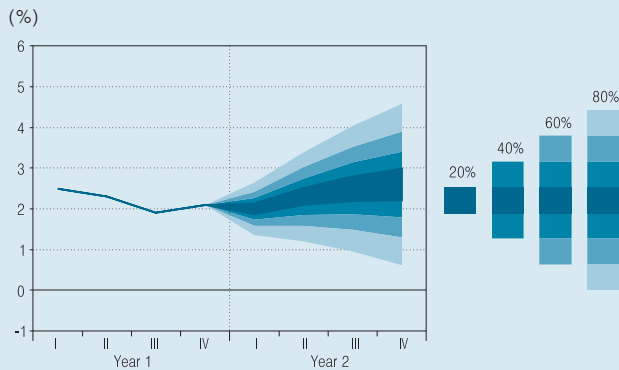


Chart B

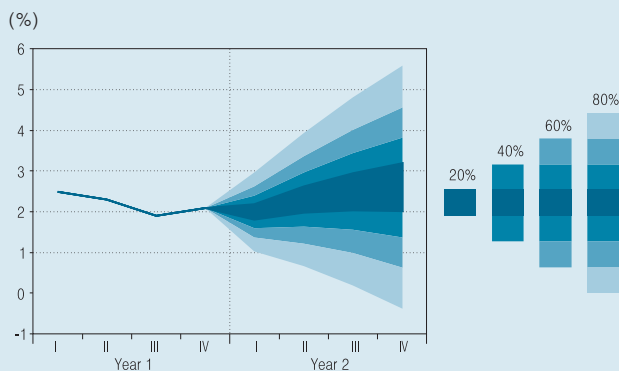
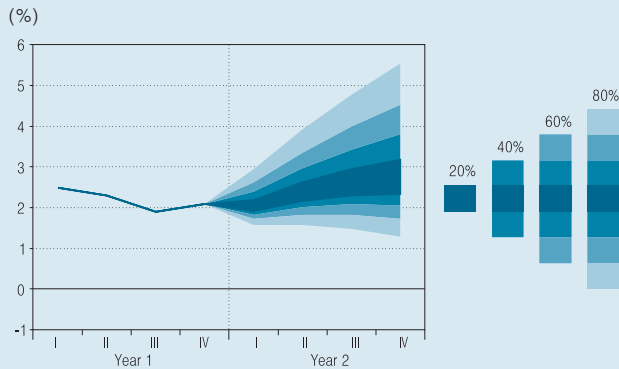


Chart C



Very often the assessment of the uncertainty<sup>2</sup> surrounding the forecasts is based on probability distribution of projected value using the concept of subjective probability<sup>3</sup>. Variants of this practice are used by various central banks and for clarity the results are usually presented in the so-called fan charts. A fan chart shows (for a set of forecast horizons) the intervals within which the projected value would be if probabilities corresponding to each interval are chosen in advance.

Examples of fan charts for a hypothetical economic indicator are shown below. The values of the indicator for the first year are known and the forecasts are for the four quarters of the second year. The middle band of each chart, depicted in the darkest colour, includes the central projection. Probability distribution assigns 20 per cent probability for the actual value of the indicator to fall in this band in each of the quarters. If neighbouring bands (in the same brighter colour) are added to the middle band, there would be 40 per cent coverage of the probability mass. Thus, by adding each same colour couple of bands, the probability for the value to fall there would be increased by 20 percentage points to reach 80 per cent. The probability for the value to remain outside the coloured part of the chart is 20 per cent based on the subjective distribution. The larger the forecast uncertainty for a particular quarter, the wider the bands of the fan (uncertainty shown in Chart B is larger than that in Chart A for the entire projection horizon). If it is considered that risks to the forecast are not symmetric and are skewed in a particular direction, the bands from the respective side will be wider (see Chart C, which shows bigger risks of deviation upward from the central forecast value and the corresponding bands of the fan are wider on the upper end).

The construction of a probability distribution based on the concept of subjective probability may be done directly for the projected value or indirectly. According to the indirect approach distributions for a set of factors influencing the interested value are built first and estimated coefficients measuring the impact of each factor on the projected variable are used. While the direct approach ensures larger flexibility and op-

portunity to present in a summarised form the uncertainty of the forecast without clearly specifying the sources of uncertainty and relying on a particular model, the indirect approach allows a quantitative assessment of the uncertainty of the forecast arising from a particular factor.

Assessments of uncertainty in forecasting economic growth (Chapter 3) and inflation (Chapter 4) are based on the direct approach. To formalise the assessments, probability distribution is used which allows to present flexibly both the overall degree of uncertainty and the assessment of more probable deviation direction of the actual pro-

<sup>2</sup> In cases when the uncertainty may be characterised quantitatively (e.g. by probability distribution), the term risk is commonly used in the economic literature. However in the forecasting literature the term 'forecast uncertainty' is used even in cases when the uncertainty may be described by probability terms, and we adhere to this practice.

<sup>3</sup> See for example De Finetti, B., *Theory of Probability. A Critical Introductory Treatment*. Vol. 1. Wiley, 1990 (1-st. edition 1974), or Bernardo, J. M. and A. F. M. Smith, *Bayesian Theory*. Wiley, 1994.

jection value. In particular, the so-called Skew Exponential Power type 3 distribution (SEP3)<sup>4</sup> is used. This distribution may be characterised using four parameters, usually denoted by  $\mu$ ,  $\sigma$ ,  $\nu$  and  $\tau$  (see the table), and written as SEP3 ( $\mu$ ,  $\sigma$ ,  $\nu$ ,  $\tau$ ). The table summarises the role of individual parameters and shows their values in two particular cases (for a standard normal distribution and the approach chosen). The parameter value  $\tau = 2$  yields a generalisation of the normal distribution which allows for skewness (two-piece normal distribution), which is a popular choice in the practice of central banks<sup>5</sup>, and for  $\nu = 1$  we have symmetric distribution.

In this context, to present the assessment of the team preparing the forecast on the uncertainty of projected values, it is necessary to evaluate the overall uncertainty of the forecast (by specifying the parameter  $\sigma$ ) and the so-called balance of risks (by specifying the parameter  $\nu$ ), which shows in which direction the realised value is more likely to deviate from the forecast. For this purpose a baseline setup is taken assuming that the level of uncertainty corresponds to the typical level for this indicator and risks are balanced ( $\nu = 1$ ). The 'typical' level of uncertainty for a particular horizon of forecasting is usually determined on a historical basis and calculated as an average measure of the forecast error for a selected representative period in the past, and the variance of distribution for the baseline case is obtained from this indicator. It should be then assessed whether the uncertainty for a particular forecast is higher or lower than the typical one and the risks for the forecast are tilted in a certain direction and, if so, the respective parameters should be corrected.

The described procedure leads to a distribution which is superimposed on the central forecast and characterises the expert assessment of the team preparing the forecast on the uncertainty of the future values of the respective indicator. The intervals are constructed by fixing the probability with which the future value may fall within the interval and by calculating the corresponding quantities of distribution on the left and on the right of the mode that set the limits of the interval.

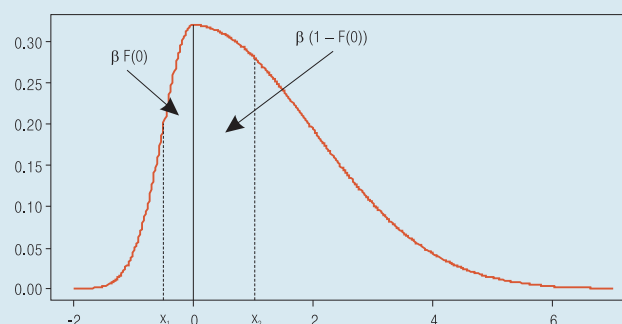
In particular, if  $\beta$  is the fixed probability and  $F(x)$  is the cumulative distribution function built below, the probability of an actual value of the indicator (the so-called realisation), lower than the mode  $\mu = 0$ , is  $F(0)$ , and for a value higher than the mode is  $1 - F(0)$ . Therefore, the value  $x_1$  on the left of the mode, for which the realisation will be in the interval between  $x_1$  and 0 with probability  $\beta F(0)$ , is found by the formula  $x_1 = F^{-1}((1-\beta)F(0))$ , where  $F^{-1}(p)$  is the inverse function of the selected distribution function. Similarly, the value  $x_2$  on the right of the mode, for which the realisation will be in the interval between 0 and  $x_2$  with probability  $\beta(1 - F(0))$ , is found by the formula  $x_2 = F^{-1}(\beta + (1 - \beta)F(0))$ . Thus, the probability for realisation in the interval between  $x_1$  and  $x_2$  will be  $\beta$ , and generally the mode of distribution will not be exactly in the middle of the interval (the mode will be in the middle of the interval in case of symmetric distribution). The described scheme of interval construction is illustrated on the chart on the right.

#### Parameters of the SEP3 Distribution

Parameter	Admissible values	Influence	A value used for the <i>Economic Review</i> estimates*
$\mu$	unlimited	mode	0 (0)
$\sigma$	positive	variance	specified for a particular forecast (1)
$\nu$	positive	skewness	specified for a particular forecast (1)
$\tau$	positive	kurtosis	2 (2)

\* The respective value of the parameter is specified in brackets in the case of standard normal distribution.

Density of SEP3 (0, 1, 2, 2) Distribution and the Interval Corresponding to Probability  $\beta$



<sup>4</sup> See Fernandez, C., J. Osiewalski and M. F. J. Steel, *Modeling and inference with v-spherical distributions*. *Journal of the American Statistical Association*. 90, 1995, c. 1331 – 1340.

<sup>5</sup> See for example *Bank of England Quarterly Bulletin*, Vol. 38, No. 1, February 1998, *Sveriges Riksbank Quarterly Review*, 1999, No. 2.

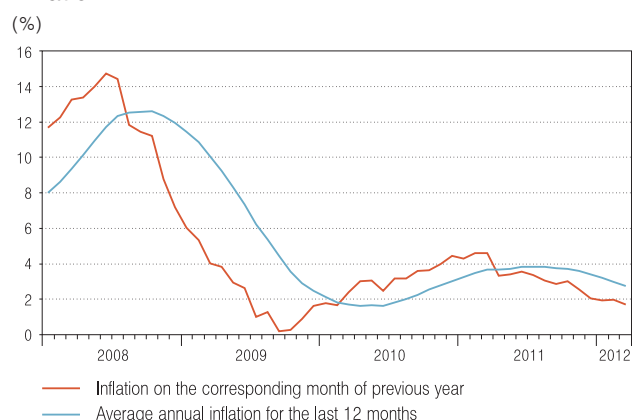
# 4. Inflation

In the first quarter of 2012 consumer price inflation remained at a relatively low level coming to 1.7 per cent in March compared to 2.0 per cent in December 2011. Higher inflation in transport fuels reflecting the developments in crude oil prices on the international markets did not exert an upward pressure on overall inflation as it was offset by the decline in food price inflation and the lower core inflation.

In the second and third quarters of 2012 inflation is expected to increase slightly compared to its current levels mainly due to fuel price inflation, core inflation and adjustments in some administratively controlled prices. Major risks to the inflation forecast relate to international price developments, trends in economic activity in Bulgaria and the decision on the regulated electricity price for households.

After accelerating in 2010 and in early 2011, the annual consumer price inflation started to decline, following the stabilisation of international commodity prices. This trend was sustained in the first quarter of 2012<sup>1</sup>: in March the annual rate of inflation was 1.7 per cent (2.0 per cent in December 2011) and the average annual inflation over the last 12 months decelerated to 2.7 per cent (3.4 per cent as of December 2011).

## Inflation



Source: NSI.

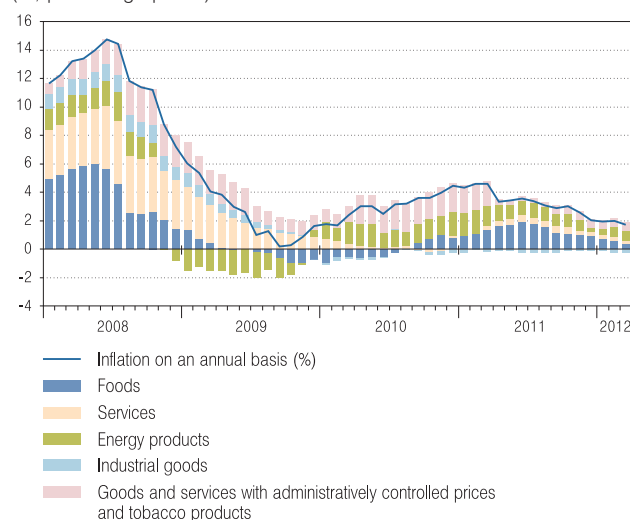
In March transport fuels (0.6 percentage point contribution), goods and services with administratively controlled prices (0.6 percentage point contribution) and foods (0.4 percentage point contribution) contributed most to the annual inflation.

The downward trend in transport fuel inflation was reversed in the beginning of 2012 due to the significant increase in crude oil prices. In March annual fuel inflation rose to 7.8 per cent

(4.0 per cent in December 2011) and this group retained its main contribution to overall consumer price inflation.

## Inflation Rate on Corresponding Month of Previous Year and Contribution of Major Goods and Services Groups to It

(%, percentage points)



Note: This structure corresponds to the Eurostat classification; tobacco products and goods and services with administratively controlled prices are presented separately. Administratively controlled prices are calculated on the basis of elementary aggregates in the consumer basket.

Sources: NSI, BNB.

Slowing growth in food prices and lower core inflation had just the opposite effect on overall inflation in the first quarter of 2012. Between January and March the rate of growth of administratively controlled prices remained around 4 per cent on an annual basis: relatively unchanged from the previous year.

The general trends in international commodity prices in 2011 and early 2012 continued to be

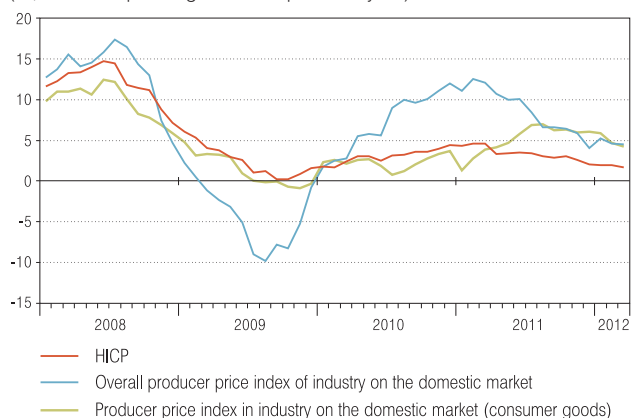
<sup>1</sup> The analysis in this Section is based on NSI data on HICP.

the main drivers behind domestic price dynamics along the supply chain.

In the fourth quarter of 2011 the import deflator of goods posted a 6.8 per cent annual rate of growth compared with an increase of 16 per cent in the first three months of that year.

#### Rate of Change in PPI in Industry and HICP

(%, on corresponding month of previous year)



Source: NSI.

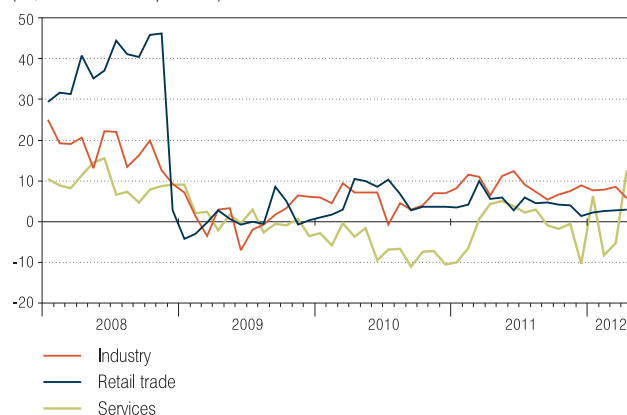
As of December the annual growth rate of the producer price index (PPI) in industry for the domestic market which reached a peak of 12.5 per cent in February 2011 – the period which saw the most pronounced increase in international energy and food prices – contracted. In the January – March 2012 period the upward oil price dynamics and surging prices of electricity, heating and gas production and distribution exerted an upward pressure on PPI which reached 4.6 per cent in March. The general trend toward lower food prices worldwide observed in the second half of 2011 contributed to the continuous decline in the growth rate of producer prices of food and overall consumer goods production which cushioned the strong PPI growth in industry for the domestic market in the first quarter of 2012.

In early 2012 core inflation (excluding the prices of foods and energy products, administered prices and tobacco prices) with an year average of 0.2 and 0.3 per cent in 2010 and 2011 respectively also remained low in early 2012 reaching 0 per cent in March (0.4 per cent in December 2011). Core inflation developments so far show that the indirect effects of price developments on international commodity markets remain relatively limited. The 2011 trends in the price dynamics of the key core inflation components – non-food (excluding fuels) and services – remained sustained in the first quarter of 2012. Non-food

prices continue to moderate on an annual basis reflecting durables' price developments. The overall services price index (excluding administratively controlled prices) sustained its relatively low annual rate of change.

#### Selling Prices Expectations in Industry, Retail Trade and Services in the Following Three Months

(%, balance of opinions)



Source: NSI.

Survey data from the January – April 2012 period show relatively lower expectations of selling price increases in the economy over the following months. However, compared with 2011 mixed developments by sectors are observed. Trade sector managers say their prevailing pricing expectations for the following months are for relatively unchanged prices, while industry reported lower expectations of selling prices compared to end-2011. The Business Situation Survey data, the services sector, which saw prevailing price fall perceptions over the last months of the previous year, reported expectations of a certain increase in services prices over the following months.

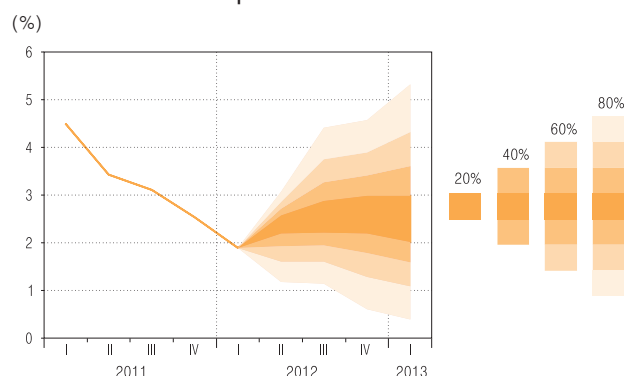
NSI updates the weight in the consumer basket on an annual basis and this may impact the dynamics of measured inflation<sup>2</sup>. Compared with the more sizeable changes in the structure of the consumer basket in 2011 changes in the

<sup>2</sup> The main data source for the calculation of the HICP weights are data obtained from the National Accounts on final consumption expenditure of households – NSI concept. Until 2011 the HICP was calculated using data for a period of 3 years before the index year. Under Commission Regulation (EU) No 1114/2010 on the minimum standards for the quality of HICP weightings that will enter into force in 2012 the NSI changed the weight reference period to two years back, i.e. for the calculation of the 2012 index preliminary data from the national accounts for 2010 are used. According to the NSI estimate published in Eurostat the effect of the introduction of this change on HICP inflation for the January – March 2012 period is less than 0.05 percentage points.

weights of the major groups of goods and services in 2012 were relatively less pronounced. In 2012 the weight of tobacco went down to 4.6 per cent from 7.4 per cent in 2011 while the weights of food products and transport fuels went up from 23.9 per cent to 25.8 per cent and from 6.9 per cent to 8.1 per cent respectively. The weight of non-foods (excluding fuels) decreased from 21 per cent to 19.4 per cent. These developments contributed to a slightly higher and more volatile inflation compared with the inflation that would have been measured with the weights from the previous year due to the relatively stronger impact of international price changes and the less pronounced impact of tobacco product prices that are expected to remain unchanged in 2012.

Our inflation expectations for the following quarters and the associated uncertainty are presented in the fan chart of quarter-on-quarter annual inflation rate<sup>3</sup>. We expect a slight increase in inflation on its current levels of between 1.9 and 2.7 per cent in the second quarter and 1.9 and 3.3 per cent in the third quarter of 2012<sup>4</sup>. The expected overall inflation dynamics reflects higher fuel price inflation, the slow increase in core inflation mainly attributable to indirect effects of the energy price rise and some administered price adjustments.

#### Fan Chart of the Expected Annual Inflation Rate



Note: See note below the chart on page 43.

Sources: NSI, BNB.

The projection is based on the assumption of an additional slight increase in oil prices from their current levels in the second quarter and stabilization of the price in the second half of 2012.

<sup>3</sup> For further details, see the box entitled Measurement and Presentation of Uncertainty in Forecasting Economic indicators.

<sup>4</sup> The presented ranges of the expected annual growth rate of inflation correspond to 40 per cent probability distribution according to our expert forecast of the probability distribution for the relevant quarter.

There is uncertainty regarding core inflation dynamics and it can be expected that core inflation is likely to reflect limited indirect effects of the energy products price rise and will tend to increase gradually, similarly to the previous year. The decisions on the increase of the minimum wage and the rise in natural gas and electricity prices in the second quarter of 2012 are expected to boost overall consumer price inflation. The current situation on international food markets does not prompt an increase in overall food inflation, although it is likely to accelerate in some groups of goods.

Major risks to the inflation forecast relate to international price developments, trends in the economic activity in Bulgaria and the decision on the regulated electricity price for households. A continuous downward trend in international prices and lower economic activity in Bulgaria might contribute to relatively low inflation. A close to the maximum increase in electricity for households announced (10 per cent), an upward dynamics in oil prices and higher international food prices may result in higher inflation in the third quarter. Current data on the annual inflation rate in March and the ease in petrol prices in April and in early May show higher probability of relatively low inflation in the second quarter of 2012 while the balance of risks shows a shift to higher inflation in the third quarter<sup>5</sup>.

#### Comparison of the Structure of the Consumer Basket According to the HICP between 2010 – 2012

(%)	2010	2011	2012
<b>Foods</b>	21.6	23.9	25.8
Processed Food	13.2	15.6	17.5
Unprocessed Food	8.5	8.4	8.4
<b>Services</b>	31.0	25.1	25.3
Catering services	12.4	4.9	5.0
Transportation services	4.7	3.6	4.4
Telecommunication services	4.1	4.5	5.2
Other services	9.7	12.1	10.8
<b>Energy products</b>	9.3	7.3	8.7
Transport fuels	8.4	6.9	8.1
<b>Industrial goods</b>	18.9	21.0	19.4
<b>Goods and services with administratively controlled prices</b>	15.2	15.3	16.1
<b>Tobacco products</b>	3.9	7.4	4.6

\* Administratively controlled prices are calculated at elementary aggregates level in the consumer basket. The weights are updated with the change in prices as of December 2011.

<sup>5</sup> If the National Assembly approves the proposal of the government of 9 May 2012 on unmooring user charges for GP consultations of the minimum wage, inflation is likely to decline in the second quarter.



## Growth Rate of Major Goods and Services Groups Prices and Their Contribution to Accumulated Inflation

	Annual inflation rate as of March 2011 (December 2010 = 100)		Annual inflation rate as of March 2012 (December 2011 = 100)		Annual inflation rate as of March 2012 (March 2011 = 100)	
Inflation (%)	1.4		1.1		1.7	
	Inflation rate by group, %	Contribution, p.p.	Inflation rate by group, %	Contribution, p.p.	Inflation rate by group, %	Contribution, p.p.
<b>Foods</b>	<b>4.1</b>	<b>0.98</b>	<b>1.6</b>	<b>0.41</b>	<b>1.5</b>	<b>0.39</b>
Processed foods	3.8	0.59	0.4	0.08	2.1	0.34
Unprocessed foods	4.7	0.39	4.0	0.33	0.5	0.05
<b>Services</b>	<b>0.1</b>	<b>0.03</b>	<b>-0.1</b>	<b>-0.02</b>	<b>0.9</b>	<b>0.23</b>
Catering services	0.8	0.04	0.5	0.02	3.5	0.17
Transport services	2.0	0.07	1.2	0.05	4.2	0.16
Telecommunication services	-0.3	-0.01	-0.3	-0.01	-1.8	-0.08
Other services	-0.6	-0.07	-0.7	-0.08	-0.2	-0.02
<b>Energy products</b>	<b>6.0</b>	<b>0.43</b>	<b>9.8</b>	<b>0.85</b>	<b>7.8</b>	<b>0.71</b>
Transport fuels	6.3	0.44	10.1	0.82	7.8	0.63
<b>Industrial goods</b>	<b>-0.6</b>	<b>-0.12</b>	<b>-1.4</b>	<b>-0.26</b>	<b>-1.1</b>	<b>-0.22</b>
<b>Goods and services with administratively controlled prices</b>	<b>0.6</b>	<b>0.10</b>	<b>0.6</b>	<b>0.10</b>	<b>4.1</b>	<b>0.63</b>
<b>Tobacco products</b>	<b>0.0</b>	<b>0.00</b>	<b>0.0</b>	<b>0.00</b>	<b>-0.3</b>	<b>-0.02</b>

\* Administratively controlled prices are calculated at elementary aggregates level in the consumer basket.

Sources: NSI, BNB.

Sources: NSI, BNB.

### Food Prices

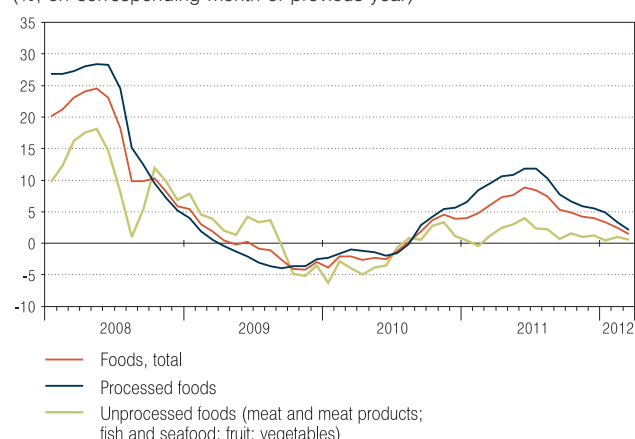
In the first quarter of 2012 the annual rate of change in food prices continued to moderate following the general downward trend in international markets observed since the second half of 2011 and in producer prices on the domestic market, reaching 1.5 per cent in March.

Processed foods whose annual price rise of 2.1 per cent eased by 9.7 percentage points on mid-2011 were the main driver of overall food price dynamics. Vegetable oils, sugar, bread and cereals saw the most pronounced decline in prices in this group. Milk, dairy products and eggs saw higher annual inflation in February and March mainly due to the sizeable increase in egg prices.

Inflationary developments in unprocessed foods (meat and meat products, fruit, vegetables and fish) remained relatively more modest. The annual rate of change in this group's prices came to 0.5 per cent (1.2 per cent as of December 2011), but the ongoing rise in the growth rate of prices in meat and meat products was largely offset by the ease in vegetable prices.

### Rate of Change of Food Price Index

(%, on corresponding month of previous year)



Sources: NSI, BNB.

The overall contribution of food prices to consumer price inflation in March was 0.4 percentage points with meat and meat products (0.3 percentage points) and milk, dairy products and eggs (0.2 percentage points) contributing most to this and vegetables reporting the most sizeable negative contribution (-0.3 percentage points).

The current situation on international food markets does not prompt an increase in overall food inflation although it is likely to accelerate in some groups of goods (see here International Prices in the External Environment Section). The potential factors that are likely to influence food prices over the period are the potential consequences of the unfavourable weather conditions from early 2012 in the EU Member States, the quality of the harvest in Bulgaria and the possible indirect effects of the increase in energy prices. The effect of this factors cannot be determined precisely but with a view to the current situation on the international markets the risks to the outlook for food price inflation may be viewed as balanced.

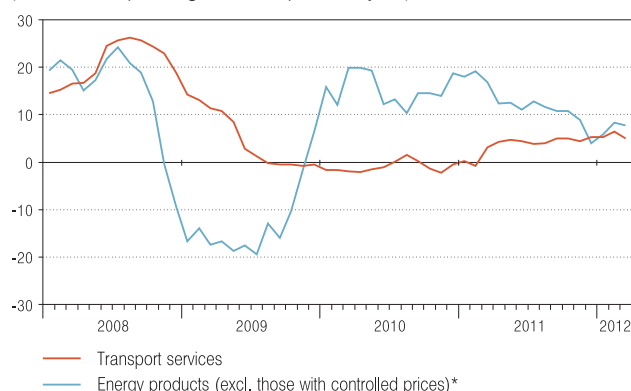
### Energy Product Prices

Over the first quarter of 2012 the annual inflation rate of transport fuels accelerated reaching 7.8 per cent in March (4.0 per cent in December 2011) contributing 0.6 percentage points to overall inflation<sup>6</sup>.

The main factor behind the upward fuel price dynamics was the strong oil price rise. The effect of the administrative changes related to the increase in the diesel excise duty and the introduction of a 5 per cent bioingredient to this type of fuel from the start of 2012 was less pronounced.

### Rate of Change of Energy Product Price Index and of Transport Services Price Index

(%, on corresponding month of previous year)



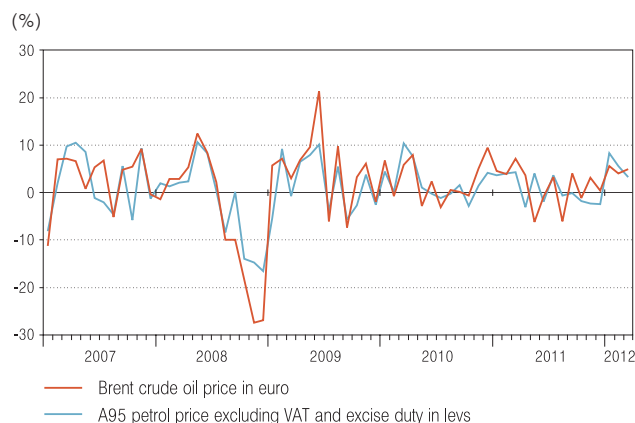
\* Energy products, excluding those with controlled prices, include fuels and lubricants for personal transportation vehicles, and solid, fluid and gaseous fuels for households.

Sources: NSI, BNB.

<sup>6</sup> Transport fuels have the largest relative share in the group of energy products. Hence, their price developments determine the overall price dynamics of energy products.

A base effect of the decrease in automobile fuel prices in the second quarter of 2011 is expected to boost further the annual rate of change in prices over the same period of 2012 while in the third quarter prices are likely to moderate. The projection is based on the assumption of a further slight increase in oil prices on the current levels in the second quarter of 2012 and stabilisation of these prices in the second half of the year.

### Monthly Rate of Change in the Prices of Brent Crude Oil and A95 Petrol



Sources: ECB, NSI, BNB.

### Administratively Controlled Prices and Tobacco Product Prices

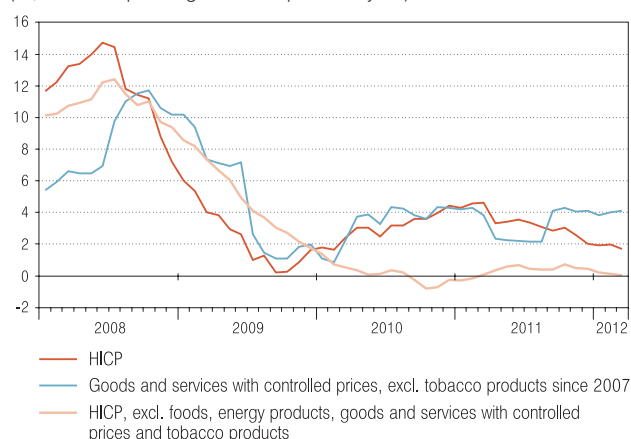
In the first quarter of 2012 the annual inflation rate in goods and services with administratively controlled prices came to 4 per cent and remained close to its level of the fourth quarter of 2011. As of March they contributed 0.06 percentage points to overall inflation.

The early 2012 adjustments in administratively controlled prices that had a relatively large contribution to inflation, included higher railway and urban transport fares, higher water supply and refuse levies.

In the second quarter of 2012 inflation in goods and services with administratively controlled prices is expected to accelerate reflecting mainly higher hospital services and fees for visits to GPs: up 7.4 per cent, as they are directly tied to the minimum wage. Higher natural gas and electricity prices (12.7 per cent and around 10 per cent in big cities) in force as of 1 April 2012 will have an additional impact on inflation.

## Rate of Change in the Overall CPI, Administratively Controlled Price Index and Core Inflation

(%, on corresponding month of previous year)



Note: Given the fact that tobacco product prices are largely dependent on administratively controlled excise rates, tobacco products are discussed separately from the group of goods and services with non-controlled prices, regardless of the liberalisation of the market of tobacco products in early 2007. Administratively controlled prices are calculated at the elementary aggregates level in the consumer basket.

Sources: NSI, BNB.

If a decision for a close to the maximum of 10 per cent increase in electricity for households from 1 July 2012 discussed by the State Energy and Water Regulatory Commission materializes, administratively controlled prices are likely to continue to exert an upward pressure on overall inflation in the third quarter of 2012. An increase in the price of electricity of that kind will probably have a more pronounced effect on inflation due to the relatively high weight of this group in the consumer basket (around 4 per cent in 2012).

The prices of tobacco products whose excise duties remained unchanged over the review year decreased slightly on an annual basis in the first quarter (-0.3 per cent by March), contributing insignificantly to overall inflation. Price developments in this group are expected to remain sustained in the second and third quarters of 2012.

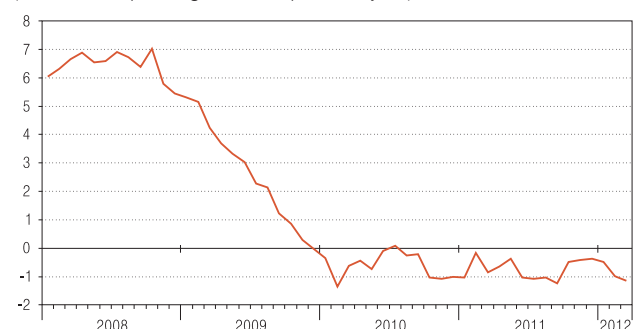
## Industrial Goods Prices

The trend towards an insignificant decrease in the price index of non-food goods (excluding fuels) that occurred in 2010 and continued in 2011 remained sustained in the first quarter of 2012. As of March non-food goods prices declined by 1.1 per cent on the corresponding period of the previous year (-0.4 per cent in December 2011)

contributing -0.2 percentage points to overall inflation.

## Rate of Change of Industrial Goods Price Index Excluding Energy Products and Goods with Administratively Controlled Prices

(%, on corresponding month of previous year)



Note: Preliminary data for January 2012.

Sources: NSI, BNB.

Price developments for individual non-food goods varied which may be explained by the specific market conditions, namely factors such as competition and demand. The negative dynamics in the overall price index in this group in early 2012 was driven, as in the previous year, mainly by the depreciation of durable goods such as automobiles, computers and televisions. The prices of other durable goods such as furniture, furnishings and household appliances reported relatively low rates of decline. The overall price index of non-durable goods was characterised by low positive inflation with a slight downward trend in the rates of increase in prices in early 2012.

Limited consumer demand, as suggested by the data on retail trade turnover (at comparable prices) from early 2012, was one of the possible factors behind the still subdued price dynamics of non-food goods. Another factor with a potential impact on the prices of some goods is the global trend toward a depreciation of computer and television equipment prices which is seen in the downward dynamics of prices also in the EU Member States.

The expected relatively slow recovery in consumer expenditure in the second and third quarters of 2012 will probably determine the continuous low negative price developments in this group of goods over the period.

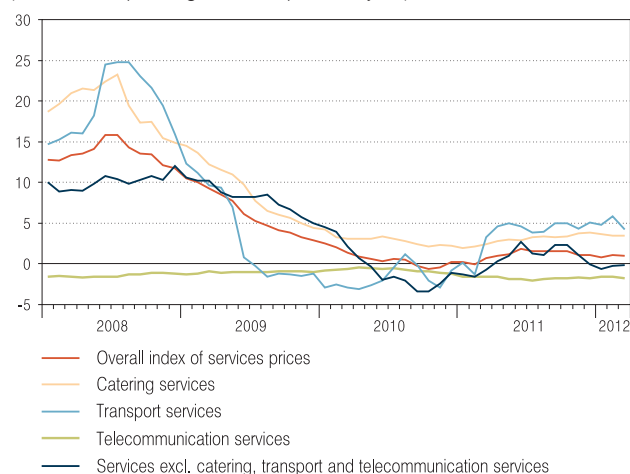
## Services Prices

In the first quarter of 2012 services prices (excluding administratively controlled prices) were still characterised by low inflation rates as in the previous two years. As of March the services price index marked an increase of 0.9 per cent on the corresponding period of 2011 (1.1 per cent in December 2011) contributing 0.2 percentage points to overall consumer price inflation.

In early 2012 inflation dynamics in services continued to reflect the different trends in the main groups having a relatively high weight in the HICP: catering, transport services and telecommunication services.

### Rates of Change of Services Price Index Excluding Those with Controlled Prices

(%, on corresponding month of previous year)



Sources: NSI, BNB.

Inflation in transport services which reported an increase in 2011 due to the energy price rise remained relatively high in early 2012 contributing 0.2 percentage points to overall inflation by March. In the first quarter of 2012 the general transport services price index, excluding administratively controlled prices, reported an average annual increase of 4.9 per cent (compared to 4.8 per cent in the fourth quarter of 2011). By component, a higher rate of change in air transport prices was observed (6.2 per cent for the first quarter) and a relatively low rate in the automobile transport (4.4 per cent). Current data on inflation in transport services point to more limited indirect effects of the sizeable increase in

energy prices compared with the same period of the prior year. In addition, a further acceleration of inflation might be expected in this group over the following months if fuel prices remain high for a longer period of time.

The inflation rate in catering which followed a slight upward trend in 2011 (3.8 per cent in December from 1.9 per cent in early 2011) moderated slightly in the beginning of 2012 reaching 3.5 per cent in March and contributing 0.2 percentage points to inflation. Consumer demand together with the movements in food prices may be deemed a factor of prime importance in catering price developments.

The index of telecommunication services prices (telephone services, apparatus, internet services) following a continuous downward trend over the recent years reported a decline of 1.7 per cent on average in the first quarter of 2012 compared to an average annual decline of 1.8 per cent in 2011 and contributing -0.1 percentage points to inflation.

Services inflation excluding catering, transport and communication services dropped down by 0.2 per cent on an annual basis by March (-0.1 by end-2011). Price dynamics varied in individual groups of services, with package holidays reporting the largest negative contribution. Prices in this group declined by 7.8 per cent on average in 2010 and 5.9 per cent in 2011 and in March they still reported a negative rate of change on an annual basis (-11.6 per cent). In the first quarter of 2010 accommodation services and cultural recreation services reported negative inflation with a relatively low contribution to consumer price inflation. The overall index of other services prices in the first quarter of 2012 was characterised by low positive inflation of around 1.5 per cent.

In the second and third quarters inflation is likely to accelerate mainly in services due to the additional indirect effects of the energy price rise on the rate of change in the prices of transport services. The impact of those spillover effects on the increase of other services prices is expected to remain relatively contained, as in 2011.

